SECTION 01 50 00 - TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes requirements for temporary utilities, support facilities (storage sheds), and security and protection of temporary facilities.

1.2 DEFINITIONS

A. Permanent Enclosure: As determined by COTR, permanent or temporary roofing is complete, insulated, and weathertight; exterior walls are insulated and weathertight; and all openings are closed with permanent construction or substantial temporary closures.

B. Electrical Service: Provide temporary service compatible with servicing utility company and adequate to accommodate maximum construction and temporary lighting at any time.

C. Temporary lighting: Provide exterior illumination around field offices, storage, shop, work and other construction areas, and circulation areas for personnel. Security lighting during hours of low visibility. Lighting required for maintenance and protection of landside traffic.

D. Water Service: Potable, from local authority or public utility. Include backflow preventer or other devices as required by authorities having jurisdiction. Provide pumps and/or local pressure boosting devices necessary for delivery of water to locations needed on site.

E. Sanitary Facilities: Temporary Sanitary Facilities shall comply with the requirements of the State and County health standards. Enclosed portable self-contained units or temporary water closets and urinals, secluded from public view.

1.3 USE CHARGES

A. General: Cost or use charges for temporary facilities shall be included in the Contract Sum. Allow other entities to use temporary services and facilities without cost, including, but not limited to: FAA's construction forces, testing agencies, and authorities having jurisdiction.

B. Sewer Service: Pay sewer service use charges for sewer usage by all entities for construction operations.

C. Water Service: Pay water service use charges for water used by all entities for construction operations. Obtain permits and pay for inspections. Pay costs of installation, operation, maintenance and removal of system, and restoration of existing and permanent equipment. Pay costs of water consumed.

D. Electric Power Service: Pay electric power service use charges for electricity used by all entities for construction operations. Obtain permit and pay for inspections. Pay for installation,

operation, maintenance and removal of system, and restoration of existing and permanent equipment. Contractor shall provide and pay for adequate power for testing all systems. Transfer of responsibility for power shall be the date of Substantial Completion.

E. Water Service: Provide connections and extensions of services as required for construction operations.

1.4 SUBMITTALS

A. Site Plan: Show temporary facilities, utility hookups, staging areas, and parking areas for construction personnel.

1.5 QUALITY ASSURANCE

A. Electric Service: Comply with NECA, NEMA, and UL standards and regulations for temporary electric service. Install service to comply with NFPA 70.

B. Tests and Inspections: Arrange for authorities having jurisdiction to test and inspect each temporary utility before use. Obtain required certifications and permits.

C. Water Quality Tests: Provide water quality tests that indicate impurities, minerals and/or organic compounds over the last 12 months before temporary service is installed. Maintain records of water quality tests performed by local authority during project duration and submit with final record documents.

1.6 PROJECT CONDITIONS

A. Temporary Use of Permanent Facilities: Installer of each permanent service shall assume responsibility for operation, maintenance, and protection of each permanent service during its use as a construction facility before FAA's acceptance, regardless of previously assigned responsibilities.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Pavement: Comply with Paving Sections of specification.

B. Chain-Link Fencing: Minimum 2-inch, 0.148-inch- thick, galvanized steel, chain-link fabric fencing; minimum 6 feet high with galvanized steel pipe posts; minimum 2-3/8-inch- OD line posts and 2-7/8-inch- OD corner and pull posts with galvanized barbed-wire top strand.

C. Portable Chain-Link Fencing: Minimum 2-inch, 9-gage, galvanized steel, chain-link fabric fencing; minimum 6 feet high with galvanized steel pipe posts; minimum 2-3/8-inch- OD line posts and 2-7/8-inch- OD corner and pull posts, with 1-5/8-inch- OD top and bottom rails. Provide bases for supporting posts.

D. Lumber and Plywood: Comply with requirements in Section 06 10 00 "Rough Carpentry."

E. Gypsum Board: Minimum 1/2 inch thick by 48 inches wide by maximum available lengths; regular-type panels with tapered edges. Comply with ASTM C 36/C 36M.

F. Insulation: Unfaced mineral-fiber blanket, manufactured from glass, slag wool, or rock wool; with maximum flame-spread and smoke-developed indexes of 25 and 50, respectively.

G. Paint: Comply with requirements in Division 09 painting Sections.

H. Electrical & lighting materials, devices & equipment: Adequate to the purpose; standard fixtures & devices, meeting UL and NEC requirements for temporary service installations.

I. Pipe materials, connections and fittings: Adequate to the purpose.

J. Drinking Water Dispensers: Standard products.

2.2 TEMPORARY FACILITIES

A. Storage and Fabrication Sheds: Provide sheds sized, furnished, and equipped to accommodate materials and equipment for construction operations.

1. Store combustible materials apart from building.

B. Storm Tie Downs: All temporary offices and storage sheds to be located on the site for a period exceeding thirty (30) days shall be provided with storm tie downs. The tie downs shall conform to local standards and at a minimum shall meet the local requirements for anchoring of mobile homes. During such periods of time as are designated by the National Weather Service as being a severe weather warning, all temporary sheds and offices shall be anchored or removed from the site.

C. Storage sheds, substantial and watertight, shall be used to store all materials subject to damage by weather. Storage sheds shall have floors raised at least six (6) inches above the ground on heavy joists or sleepers. Contractor and subcontractors shall provide such temporary storage as, in the opinion of the RE, may be necessary to fully protect all stored materials, equipment, apparatus, etc., during the progress of the work.

D. Temporary Offices and Storage Sheds: Contractor and each major subcontractor shall provide their office and storage sheds on the premises, maintain same, and remove same upon completion.

1. All storage sheds shall comply with applicable codes and shall be located as approved by RE.

2.3 EQUIPMENT

A. Fire Extinguishers: Portable, UL rated; with class and extinguishing agent as required by locations and classes of fire exposures.

B. HVAC Equipment: Adequate to the purpose.

1. Use of gasoline-burning space heaters, open-flame heaters, or salamander-type heating units is prohibited.
2. Heating Units: Listed and labeled for type of fuel being consumed, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

2.4 TOILET FACILITIES

A. Enclosed portable self-contained units or temporary water closets and urinals, designed either for chemical neutralization or for holding in a temporary tank for pumping by a legally permitted sewage transport company.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. Locate facilities where they will serve Project adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required by progress of the Work.

B. Provide each facility ready for use when needed to avoid delay. Do not remove until facilities are no longer needed or are replaced by authorized use of completed permanent facilities.

C. Contractor shall provide and pay for all temporary facilities as necessary for the proper and expeditious execution of the work. Contractor shall provide all labor, materials, equipment and appurtenances necessary for the complete installation, operation and maintenance of all temporary facilities. Contractor shall pay costs of all utilities consumed. All work under this Section shall comply with applicable laws, rules, regulations, codes, ordinances and orders of all federal, state and local authorities having jurisdiction for the safety of persons, materials and property. Contractor shall remove all such temporary installations and connections when no longer necessary for the project work.

3.2 TEMPORARY UTILITY INSTALLATION

A. General: Install temporary service or connect to existing service.

1. Arrange with utility company, FAA, and existing users for time when service can be interrupted, if necessary, to make connections for temporary services.

B. Sewers and Drainage: Provide temporary utilities to remove effluent lawfully.

1. Connect temporary sewers directed by authorities having jurisdiction.

C. Water Service: Install water service and distribution piping in sizes and pressure adequate for construction. Modify and extend service as work progresses. Size piping to supply construction needs and for temporary fire protection. Provide pumps, pressure tanks, automatic controls, and storage tanks as necessary to pressurize system. Disinfect piping used for drinking water. Install backflow preventer valves as all connections to the system. Field Representatives' offices shall be connected to the water utility company at the time of installation of the offices. Water service to Field Representatives' offices shall be continuous. Piping shall be installed to prevent freezing.

D. Sanitary Facilities: Provide temporary toilets, wash facilities, and drinking water for use of construction personnel. Comply with authorities having jurisdiction for type, number, location, operation, and maintenance of fixtures and facilities.

E. HVAC: Provide temporary HVAC required by construction activities for curing or drying of completed installations or for protecting installed construction from adverse effects of low temperatures or high humidity. Select equipment that will not have a harmful effect on completed installations or elements being installed.

F. Ventilation and Humidity Control: Provide temporary ventilation required by construction activities for curing or drying of completed installations or for protecting installed construction from adverse effects of high humidity. Select equipment that will not have a harmful effect on completed installations or elements being installed. Coordinate ventilation requirements to produce ambient condition required and minimize energy consumption.

G. Electric Power Service: Provide electric power service and distribution system of sufficient size, capacity, and power characteristics required for construction operations.

1. Install electric power service overhead, unless otherwise indicated, at the time of initial site mobilization. Comply with requirements of the Contract Documents. Modify and extend system as work progresses.
2. Maintain system to provide continuous service.
3. Comply with International Building Code and National Electric Code requirements.

H. Lighting: Provide temporary lighting with local switching that provides adequate illumination for construction operations, observations, inspections, and traffic conditions.

1. Install and operate temporary lighting that fulfills security and protection requirements without operating entire system.
2. Install lighting for Project identification sign.
3. Modify, supplement and extend lighting as work progresses.

I. Telephone Service: Provide temporary telephone service use by construction personnel.

1. At each telephone, post a list of important telephone numbers.

a. Police and fire departments.
b. Ambulance service.
c. Contractor's home office.
d. COTR's office.
e. Engineers' offices.
f. Principal subcontractors' field and home offices.

3.3 SUPPORT FACILITIES INSTALLATION

A. General: Comply with the following:

1. Provide incombustible construction for offices, shops, and sheds located within construction area or within 30 feet of building lines. Comply with NFPA 241.
2. Maintain support facilities until near Substantial Completion. Remove before Substantial Completion. Personnel remaining after Substantial Completion will be permitted to use permanent facilities, under conditions acceptable to FAA.

B. Temporary Roads and Paved Areas: Construct and maintain temporary roads and paved areas adequate for construction operations. Locate temporary roads and paved areas in same location as permanent roads and paved areas. Extend temporary roads and paved areas, within construction limits indicated, as necessary for construction operations.

1. Coordinate elevations of temporary roads and paved areas with permanent roads and paved areas.
2. Prepare subgrade and install subbase and base for temporary roads and paved areas according to specifications.
3. Recondition base after temporary use, including removing contaminated material, regrading, proofrolling, compacting, and testing.
4. Provide dust-control treatment that is nonpolluting and nontracking. Reapply treatment as required to minimize dust.

C. Traffic Controls: Comply with requirements of authorities having jurisdiction.

1. Protect existing site improvements to remain including curbs, pavement, and utilities.
2. Maintain access for fire-fighting equipment and access to fire hydrants.

D. Parking: Provide temporary parking areas for construction personnel.

E. Dewatering Facilities and Drains: Comply with requirements of authorities having jurisdiction. Maintain Project site, excavations, and construction free of water.

1. Dispose of rainwater in a lawful manner that will not result in flooding Project or adjoining properties nor endanger permanent Work or temporary facilities.
2. Remove snow and ice as required to minimize accumulations.

F. Project Identification and Temporary Signs: Provide Project identification and other signs as indicated on Drawings. Install signs where indicated to inform public and individuals seeking entrance to Project. Unauthorized signs are not permitted.

1. Provide temporary, directional signs for construction personnel and visitors.
2. Maintain and touchup signs so they are legible at all times.

G. Waste Disposal Facilities: Provide waste-collection containers in sizes adequate to handle waste from construction operations. Comply with requirements of authorities having jurisdiction.

H. Lifts and Hoists: Provide facilities necessary for hoisting materials and personnel.

1. Truck cranes and similar devices used for hoisting materials are considered "tools and equipment" and not temporary facilities.

I. Temporary Elevator Use: Refer to Division 14 Sections for temporary use of new elevators.

J. Temporary Stairs: Until permanent stairs are available, provide temporary stairs where ladders are not adequate.

K. Temporary Use of Permanent Stairs: Cover finished, permanent stairs with protective covering of plywood or similar material so finishes will be undamaged at time of acceptance.

3.4 SECURITY AND PROTECTION FACILITIES INSTALLATION

A. Temporary Erosion. Sedimentation and Pollution Control: Provide measures to prevent soil erosion and discharge of soil-bearing water runoff and airborne dust to adjacent properties, storm sewer systems, and waterways, in accordance with the National Pollutant Discharge Elimination System (NPDES) Permit and additional authorities having jurisdiction.

1. Inspect, repair, monitor and maintain erosion- and sedimentation-control measures during construction until permanent vegetation has been established in accordance with NPDES Permit requirements.

B. Stormwater Control: Comply with authorities having jurisdiction. Provide barriers in and around excavations and subgrade construction to prevent flooding by runoff of stormwater from heavy rains.

C. Tree and Plant Protection: Install temporary fencing located as indicated or outside the drip line of trees to protect vegetation from damage from construction operations. Protect tree root systems from damage, flooding, and erosion per Broward County Landscaping Permit restrictions.

D. Pest Control: Engage pest-control service to recommend practices to minimize attraction and harboring of rodents, roaches, and other pests and to perform extermination and control procedures at regular intervals so Project will be free of pests and their residues at Substantial Completion. Obtain extended warranty for FAA. Perform control operations lawfully, using environmentally safe materials.

E. Site Enclosure Fence: Before construction operations begin, furnish and install site enclosure fence in a manner that will prevent people and animals from easily entering site except by entrance gates.

1. Extent of Fence: As required to enclose entire Project site or portion determined sufficient to accommodate construction operations.
2. Maintain security by limiting number of keys and restricting distribution to authorized personnel. Provide FAA with one set of keys.

F. Security Enclosure and Lockup: Install substantial temporary enclosure around partially completed areas of construction. Provide lockable entrances to prevent unauthorized entrance, vandalism, theft, and similar violations of security.

G. Barricades, Warning Signs, and Lights: Comply with requirements of authorities having jurisdiction for erecting structurally adequate barricades, including warning signs and lighting.

H. Temporary Enclosures: Provide temporary enclosures for protection of construction, in progress and completed, from exposure, foul weather, other construction operations, and similar activities. Provide temporary weathertight enclosure for building exterior.

1. Where heating or cooling is needed and permanent enclosure is not complete, insulate temporary enclosures.

I. Temporary Fire Protection: Install and maintain temporary fire-protection facilities of types needed to protect against reasonably predictable and controllable fire losses. Comply with NFPA 241.

1. Prohibit smoking in hazardous fire-exposure areas.
2. Supervise welding operations, combustion-type temporary heating units, and similar sources of fire ignition according to requirements of authorities having jurisdiction.
3. Develop and supervise an overall fire-prevention and -protection program for personnel at Project site. Review needs with local fire department and establish procedures to be followed. Instruct personnel in methods and procedures. Post warnings and information.

3.5 OPERATION, TERMINATION, AND REMOVAL

A. Supervision: Enforce strict discipline in use of temporary facilities. To minimize waste and abuse, limit availability of temporary facilities to essential and intended uses.

B. Maintenance: Maintain facilities in good operating condition until removal.

1. Maintain operation of temporary enclosures, heating, cooling, humidity control, ventilation, and similar facilities on a 24-hour basis where required to achieve indicated results and to avoid possibility of damage.

2. The Contractor and each subcontractor shall be responsible for cleaning and maintaining all temporary offices and storage sheds in proper condition acceptable to the RE. All exposed surfaces on the outside and inside of field offices and temporary toilet enclosures and outside of storage sheds shall be painted and maintained with exterior enamel paint. Colors are subject to approval by the RE. All temporary facilities shall be maintained by the Contractor and shall be kept in usable condition at all times until completion of the work and/or their removal is authorized by the RE.

3. Maintain lighting. Promptly replace worn or defective parts and non-working bulbs.

4. Maintain temporary water system: Maintain system to provide continuous service with adequate pressure to outlets. Maintain connections, pipes, fittings, and fixtures and conserve use of all utilities. Failure to stop leaks or other waste of water will be cause for revocation of permit for the use of said water from the airport system.

5. Maintain temporary toilet facilities: Clean facilities and surrounding areas daily. Provide toilet paper, paper towels and soap in suitable dispensers.

6. Maintain erosion, sedimentation, and pollution control measures throughout the project life cycle. Inspect erosion, sedimentation, and pollution control measures once per week and following each rain event. Any deficiencies shall be reported to the RE and promptly corrected within 48-hours.

C. Temporary Facility Changeover: Do not change over from using temporary security and protection facilities to permanent facilities until Substantial Completion.

D. Termination and Removal: Remove each temporary facility when need for its service has ended, when it has been replaced by authorized use of a permanent facility, or no later than Substantial Completion. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with temporary facility. Repair damaged Work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.

1. Materials and facilities that constitute temporary facilities are property of Contractor. FAA reserves right to take possession of Project identification signs.
2. Remove temporary paving not intended for or acceptable for integration into permanent paving. Where area is intended for landscape development, remove soil and aggregate fill that do not comply with requirements for fill or subsoil. Remove materials contaminated with road oil, asphalt and other petrochemical compounds, and other substances that might impair growth of plant materials or lawns. Repair or replace street paving, curbs, and sidewalks at temporary entrances, as required by authorities having jurisdiction.
3. Remove temporary erosion, sedimentation and pollution control measures upon final stabilization of site.
4. Remove temporary lighting material and equipment when permanent system is operational.
5. Remove temporary toilet facilities when permanent facilities are available for use, but no later than Substantial Completion.
6. At Substantial Completion, clean and renovate permanent facilities used during construction period. Comply with final cleaning requirements specified. in Section 01 77 00 "Closeout Procedures."

END OF SECTION 01 50 00

SECTION 01 52 13 - FAA FIELD REPRESENTATIVE'S OFFICE

PART 1 - GENERAL

1.1 REQUIREMENTS INCLUDED

A. Field Representative's Office.

B. Maintenance and Janitorial Services and Cleaning.

C. Removal.

1.2 PERMITS

A. The Contractor shall apply for and obtain all construction permits and required inspections for this and any other temporary facilities.

1.3 LOCATION

A. The location of the Field Representative's trailer must be approved by the RE.

1.4 SUBMITTALS

A. Provide product data and equipment specifications for items described in "PART 2 – PRODUCTS".

1.5 TIME OF USE

A. The Field Representative's office shall be installed on the site at the time construction begins. It shall remain on site and usable until Final Construction Acceptance Inspection unless earlier removal date is requested or approved by the RE.

PART 2 - PRODUCTS

2.1 FAA's FIELD REPRESENTATIVE OFFICE

A. Separate space for sole use of FAA's Field Representative with separate entrance door with new lock and five (5) keys.

B. Area: Provide floor plan in general conformance with Figure #1.

C. Windows: Minimum of 5; minimum total area of ten percent (10%) of floor area, with operable sash and insect screens. Locate to provide views of construction area. Windows shall have glass panes and shall be equipped with venetian blinds and latches.

D. Doors: A minimum of two doors, each at least 2 feet, 8 inches wide, shall be provided. Access steps with an entrance platform and safety hand rail shall be provided for each door. The movable step usually furnished with most office trailers is not acceptable.

E. Walls: Interior walls shall be furnished with 1/4" minimum thick, durable, prefinished wood paneling, preferably of a dark shade.

F. Ceilings: Ceilings shall be at least 7 feet high and constructed of acoustical tile.

G. Floor: Floor covering shall be of asphalt or vinyl tile.

H. Electrical Distribution Panel: 18 circuits minimum, 240 volt, 60 hz service.

I. 120 volt duplex convenience outlets, spaced at 12' intervals, with a minimum of one per wall in each room.

J. Switch controlled fluorescent light fixtures, capable of maintaining minimum illumination of 20 foot-candles at desk height.

K. Telephone Lines: A minimum of 4 lines with one line dedicated to the FAX machine. Contractor shall provide high speed internet connection, at the highest rate DSL available from any provider in the area, with outlets at each phone location and fax/printer location. Provide 7 two-line, touch-tone speaker phones two of which shall be cordless (one in each room). Provide automatic roll-over of incoming and out-going calls. Contractor shall pay for all local and long distance service. All service shall be in contractor's name.

L. Sanitary Facilities: toilet; wash basin; mirror; toilet paper, cup, soap and towel dispensers; electric water heater; and waste receptacle. Restroom shall be properly ventilated.

M. Heating/Cooling: HVAC shall be provided and be of adequate capacity to maintain an inside temperature of 75 degrees F at the local outdoor design temperature.

N. Furnishings (confirm furnishings with RE):

1. Provide Floor mats at all entrances
2. Paper shredder

a. Rooms #1, #2, and #7:

1) 1 Desk – 6 drawer type
2) 1 Desk chair
3) 2 Office chairs
4) 1 Tack board
5) 1 Dry Erase Board
6) 4' Book shelf

b. Room #3:

1) 6 Folding tables (36" x 72")
2) 10 Stacking chairs

3) 10 Office chairs
4) 1 Tack board
5) 2 Dry Erase Boards
6) 1 Secretarial desk
7) Provide bottle water service throughout duration of project
8) 12' Bookshelves (12" x 72")
9) 1 Locking Storage cabinet (16" x 36" x 72")
10) 2 Drafting stool
11) 2 Plan racks – hanging type – 10 sticks each
12) 4 3' x 6' book shelves. Location to be determined by RE
13) 2 Fire rated 4-drawer filing cabinet. Legal size
14) 2 Filing cabinets, legal size.
15) 1 Drafting table

c. Room #8:

1) 2 Desk – 6 drawer type
2) 2 Desk chair
3) 2 Office chairs
4) 1 Tack board
5) 4' Book shelf

d. Break Area:

1) 1 Sink with hot and cold water
2) 18 cubic foot refrigerator
3) 2 cubic foot microwave oven

3. Fire rated filing cabinets shall be one hour rated. Include lock and not less than 2 keys.
4. Desk chairs shall be metal with leather seat and include: swivel; arms; and casters.
5. Office chairs shall be straight metal chairs with leather seats.
6. Provide one waste basket per room plus two additional in Room #3.
7. Tackboards, 24 inch x 48 inch minimum.
8. 25-person first aid kit (provide replacement supplies as needed).
9. 2½ pound A:B:C: dry-chemical fire extinguisher, minimum 2 each

O. One copy machine plus all service and supplies including paper, with at least the following features:

1. Capable of normal use of 1,000 copies per month.
2. Plain paper, dry toner type.
3. Capable of reduction from legal to 8-1/2" x 11" and 11" x 17" to 8-1/2" x 11".
4. Capable of 8-1/2" x 11" and 11" x 17" multipage, color reproduction.

P. One Laser Jet printer/scanner plus all service and supplies including paper, with at least the following features:

1. Plain size - 11" x 17" size
2. Multi-page color scanner
3. Latest Adobe Acrobat Software (3 copies of the latest version of Adobe Acrobat

Professional.)

Q. One FAX machine plus all service and supplies, with at least the following features:

1. Dedicated telephone line
2. Compatible to all fax machines
3. Plain paper - 8-1/2" x 11"
4. Multipage feed with memory storage.

a. Copier, Printer/scanner, and fax machine may be commercial type all-in-one unit.

R. Computer Software

1. Contractor Prepared Network Analysis system software (Three copies)
2. Earned Value Management software (Three copies)

PART 3 – EXECUTION

3.1 CONNECTION TO UTILITIES

A. Provide connection to all required utilities at time of installation.

3.2 PARKING FACILITIES

A. Provide well drained, graded and paved, or at least well compacted gravel surface for use by the FAA's staff. Provide not less than six parking spaces.

3.3 MAINTENANCE AND CLEANING

A. Daily janitorial service for offices; periodic cleaning and maintenance for storage areas. Weekly trash collection.

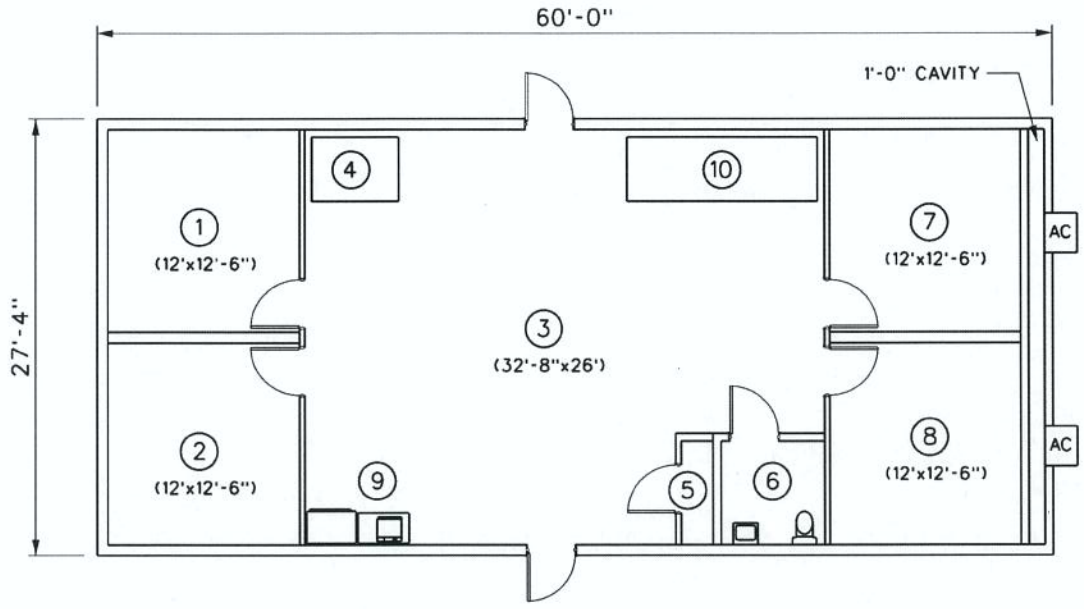
B. Maintain approach walks free of mud and water.

C. The Contractor assumes full responsibility for all costs associated with equipment and services provided for the Field Representative's office (including costs for equipment and/or services which are provided by the Contractor, but which are not specifically required by this Article).

3.4 REMOVAL

A. At final completion of work or earlier if agreed by FAA, remove buildings, foundations, utility services and debris. Restore area.

FIGURE #1



FLOOR PLAN

NOTE

This is a concept sketch only. Actual sizes and specifications may vary according to local requirements. Any furniture or appliances shown are for scale purposes only, and not included in pricing.

KEY

1. OFFICE (12'x12'-8")
2. OFFICE (12'x12'-8")
3. CONFERENCE ROOM (32'-8"x26')
4. DRAFTING TABLE
5. CLOSET (6'-6"x2')
6. TOILET (6'-6"x6'-6")
7. OFFICE (12'x12'-8")
8. OFFICE (12'x12'-8")
9. BREAK AREA
10. PLAN TABLE (12'x4') SHELF ON WALL ABOVE & BELOW TABLE W/ 12 EA. 6" PVC TUBES MOUNTED HORIZONTALLY UNDER TABLE FOR PLAN STORAGE.

END OF SECTION 01 52 13

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 01 57 13 - TEMPORARY AIR AND WATER POLLUTION, SOIL EROSION, AND SILTATION CONTROL

PART 1 - GENERAL

1.1 SCOPE

A. This Section consists of temporary control measures during the life of the Contract to control water pollution, soil erosion, and siltation through the use of berms, dikes, dams, sediment basins, erosion control mats, geotextile fabric, gravel, hay bales, mulches, grasses, slope drains, rip rap, turbidity screens (barriers), and other erosion control devices or methods; and to control air pollution through the use of water sprinkling or other approved methods. The work shall be performed in accordance with these specifications and as directed by the RE.

1.2 TEMPORARY EROSION CONTROL MEASURES

A. The temporary erosion control measures contained herein shall be coordinated with the permanent erosion control measures specified as part of this Contract to the extent practical to assure economical, effective, and continuous erosion control throughout the construction period.

1.3 TEMPORARY CONTROL

A. Temporary control may include work outside the construction limits such as borrow pit operations, equipment and material storage sites, waste areas, and temporary plant sites.

1.4 CONTROL OF CONTRACTOR'S OPERATIONS WHICH MAY RESULT IN WATER POLLUTION

A. The Contractor shall take sufficient precautions to prevent pollution of streams, canals, lakes, reservoirs, and other water impoundments, with fuels, oils, bitumens, calcium chloride, or other harmful materials. Also, the Contractor shall conduct and schedule operations so as to avoid or otherwise minimize pollution or siltation of such water. No residue from dust collectors, stripping towers, or washers shall be dumped into any live stream or storm drain.

B. Where pumps are used to remove turbid waters from enclosed construction areas such as cofferdams, sheet piles, or forms, the water shall be discharged into sediment basins, or confined by an appropriate enclosure such as turbidity barriers prior to discharge into rivers, streams, canals or impoundments, in accordance with all applicable dewatering regulations.

C. The contractor shall not disturb lands or waters outside the limits of construction as staked, or shown on plans, except as may be found necessary and authorized by the RE.

D. The location of, and method of operation in, borrow pits, material pits, stockpiles, and disposal areas furnished by the Contractor for waste material from the project (other than commercially operated sources) shall meet the approval of the RE as being such that erosion during and after

completion of the work will not result in probability of detrimental siltation or water pollution.

1.5 SUBMITTALS

A. Submit the proposed plans and schedules for construction of the project and the accomplishment of temporary and permanent erosion, sedimentation, and pollution control work, all in accordance with the requirements of the Contract Documents. The schedule shall be based on an analysis of project conditions and shall be in written form. This schedule shall specifically indicate the proposed uses of temporary erosion control features, the sequence of clearing and grubbing, earthwork operations and construction of permanent erosion control features. It shall also include proposed methods to prevent pollution of streams, lakes, reservoirs, canals, and other impoundments, as the result of construction operations. The Contractor shall also outline his proposed methods of controlling erosion, dust control and preventing pollution on haul roads and in borrow pits, material pits, stockpiles, and a plan for disposal of waste materials from the project.

B. No work shall be started until the aforementioned plans, schedules and methods of operation have been approved by FAA and any additional authorities having jurisdiction. The Contractor shall be responsible for accomplishment of the work in accordance with the approved plans and schedules. Any changes to the approved plan which may have a significant effect on the hydraulic components of the plan shall be reviewed by the RE and designer of record prior to implementation.

1.6 PERMITS

A. Comply with all local requirements. Pay for and obtain all required permits.

B. National Pollutant Discharge Elimination (NPDES) Permit – The Contractor is responsible for applying for and obtaining the required NPDES permit. The contractor shall prepare all drawings and associated documents as required to obtain the NPDES permit. All permitting fees shall be paid by the contractor.

PART 2 - PRODUCTS

2.1 TESTING OF MATERIALS

A. No testing of materials used in construction of temporary erosion control features will be required except as specified for geotextile fabric unless such materials are to be incorporated into the completed Work. Acceptance will be on the basis of visual inspection by the RE when no testing is required.

B. Materials used for the construction of temporary silt fence, not to be incorporated into the completed project may be new or used subject to the approval of the RE.

2.2 GRASS

A. Grass that will not compete with the grass sown later for permanent cover shall be a quick-growing species suitable to the area providing a temporary cover.

2.3 MULCHES

A. Mulches may be hay, straw, fiber mats, netting, bark, wood chips, or other suitable material reasonably clean and free of noxious weeds and deleterious materials.

2.4 FERTILIZER

A. Fertilizer shall be a standard commercial grade and shall conform to all Federal and state regulations and to the standards of the Association of Official Agricultural Chemists.

2.5 GEOTEXTILE FABRIC

A. Geotextile fabric shall be as per contract documents and local requirements.

2.6 OTHER

A. All other materials shall meet commercial grade standards and shall be approved by the RE before being incorporated into the project.

PART 3 - EXECUTION

3.1 GENERAL

A. In the event of conflict between these requirements and pollution control laws, rules, or regulations of Federal, state, or local agencies, the more restrictive laws, rules, or regulations shall apply.

B. The Contractor shall be responsible for full compliance with the applicable control pollution laws, rules or regulations.

3.2 AUTHORITY OF THE RE

A. The RE may limit the surface areas of unprotected erodible earth exposed by clearing and grubbing, excavation or filling operations and may direct the Contractor to provide immediate permanent or temporary erosion or pollution control measures to prevent contamination of any water course or to prevent detrimental effects on property outside the airport limits and damage to the work. The limitation of area in which excavation and filling operations may be underway shall be commensurate with the Contractor's capability and progress in keeping the finish grading, grassing, sodding, and other such permanent erosion control measures current in accordance with the accepted plans and schedules.

3.3 CONSTRUCTION DETAILS

A. The Contractor shall incorporate all permanent erosion control features into the Project at the earliest practicable time as outlined in the accepted plans and schedules. Except where future construction operations will damage slopes, the Contractor shall perform the permanent sprigging and seeding or sodding and other specified slope protection work in stages, as soon as substantial areas of exposed slopes can be made available. Temporary air pollution, erosion and water pollution control measures will be used to correct conditions that develop during construction that were not foreseen during the design stage; that are needed prior to installation of permanent control features; or that are needed temporarily to control erosion that develops during normal construction practices, but are not associated with permanent control features on the project.

B. Where erosion is likely to be a problem, clearing and grubbing operations shall be scheduled and performed so that grading operations and permanent erosion control features can follow immediately thereafter if the project conditions permit; otherwise, temporary erosion control measures may be required between successive construction stages.

C. The RE will limit the area of clearing and grubbing, excavation, borrow, and embankment operations in progress, commensurate with the Contractor's capability and progress in keeping the finish grading, sprigging and seeding or sodding, and other such permanent control measures current in accordance with the accepted schedule. Should seasonal limitations make such coordination unrealistic, temporary erosion control measures shall be taken immediately to the extent feasible and justified.

D. In the event that temporary erosion and pollution control measures are required due to the Contractor's negligence, carelessness, or failure to install permanent controls as a part of the work as scheduled or are ordered by the RE, such work shall be performed by the Contractor at its own expense.

E. The erosion control features installed by the Contractor shall be acceptably maintained by the Contractor during the construction period.

F. Pollutants such as fuels, lubricants, bitumens, raw sewage, calcium chlorides, wash water from concrete mixing operations, and other harmful materials shall not be discharged into or near rivers, streams, canals and other impoundments or into natural or manmade channels leading thereto.

3.4 SCHEDULING OF SUCCESSIVE OPERATIONS

A. The Contractor shall schedule his operations such that the area of unprotected erodible earth exposed at any one time is not larger than the minimum area necessary for efficient construction operations, and the duration of exposed, uncompleted construction to the elements shall be as short as practicable.

B. Clearing and grubbing shall be so scheduled and performed that grading operations can follow immediately thereafter, and grading operations shall be so scheduled and performed that permanent erosion control features can follow immediately thereafter if conditions on the project

permit.

3.5 DETAILS FOR TEMPORARY EROSION CONTROL FEATURES

A. General: Temporary pollution and erosion control features shall consist of, but not be limited to, temporary grassing, temporary sodding, temporary mulching, sand bagging, slope drains, sediment basins, berms, baled hay or straw, floating turbidity barrier, temporary rip rap and staked silt fence.

B. Temporary Grassing: Certain areas of sprigging and seeding may be designated by the RE as temporary erosion control features. The RE may direct that permanent type grass seed be omitted and the specified rate of spread for fertilizer used in conjunction with grassing operations be reduced when such work is designated as temporary erosion control feature.

C. Temporary Mulching: This work shall consist of furnishing and applying a two-inch to four-inch thick blanket of straw or hay mulch to designated areas and then mixing or forcing the mulch into the top two inches of the soil in order to temporarily control erosion. Only approved undecayed straw or hay, which can readily be cut into the soil shall be used. Other measures for temporary erosion control such as hydromulching, chemical adhesive soil stabilizers, etc., may be substituted for mulching with straw or hay if approved by the RE. When permanent grassing operations begin, temporary mulch materials shall be plowed under in conjunction with preparation of the ground. Mulching shall not be used on surfaces to be subsequently paved.

D. Sandbagging: This work shall consist of furnishing and placing sandbags in configurations, so as to control erosion and siltation.

E. Sediment Basins: Sediment basins shall be constructed to adequately perform the intended function. Sediment basins shall be cleaned out as necessary in accordance with plan details or as directed by the RE.

F. Baled Hay or Straw: This work shall consist of construction of baled hay or straw dams to protect against downstream accumulations of silt. The baled hay or straw dams shall be constructed in accordance with the details shown in the plans or as directed by the RE.

G. The dam shall be placed so as to effectively control silt dispersion under conditions present on this project. Alternate solutions and usage of materials may be used if approved by the RE.

H. Temporary Silt Fences

1. Description: This work shall consist of furnishing, installing, maintaining, and removing temporary silt fences, consisting of geotextile fabric installation, installed in accordance with the manufacturer's written instructions, these specifications, and the details as shown on the plans or as directed by the RE.
2. Materials and Installation: The type and size of posts, wire mesh reinforcement (if required) and method of installation will be at the option of the Contractor. These options, in the opinion of the RE, must be adequate to provide a reasonable assurance that a durable, effective installation of sediment control is accomplished.

a. Installation of all sediment control devices shall be done in a timely manner to insure the control of sediment and the protection of water courses, and to any adjacent property outside the airport limits as may be required.
b. After installation of sediment control devices, the Contractor shall be required to repair portions of any devices damaged by his equipment and such repair will be at his expense.
c. Temporary silt fence shall be erected at upland locations across ditch lines and at temporary locations as shown on the plans or approved by the RE where continuous construction activities change the natural contour and drainage runoff. The attachment to existing trees will not be permitted.

3. Inspection and Maintenance: The Contractor shall inspect all temporary silt fences immediately after each rainfall, at the beginning and at the end of each working shift and at least once each non-work day. Any deficiencies shall be immediately corrected by the Contractor. In addition, the Contractor shall make a daily review of the location of silt fences in areas where construction activities have changed the natural contour and drainage runoff to ensure that the silt fences are properly located for effectiveness. Where deficiencies exist, additional silt fences shall be installed when directed by the RE.

a. Sediment deposits shall be removed when the deposit reaches approximately one-half of the volume capacity of the temporary silt fence as directed by the RE. Any sediment deposits remaining in place after the temporary silt fence is no longer required shall be legally disposed of by the Contractor away from the job site.

3.6 TEMPORARY AIR POLLUTION (DUST) CONTROL

A. Air pollution (dust) shall be controlled using water sprinkling methods. Water shall be clean, uncontaminated and obtained from sources approved by the RE.

B. The use of calcium chlorides, salts or other chemicals to control air pollution (dust) is not permitted.

3.7 REMOVAL OF TEMPORARY EROSION CONTROL FEATURES

A. In general, any temporary erosion control features existing at the time of construction of the permanent erosion control features in an area of the project shall be removed or incorporated into the soil in such a manner that no detrimental effect to the work or the environment will result therefrom. The RE may direct that temporary features be left in place.

3.8 MAINTENANCE OF EROSION CONTROL FEATURES

A. General: The Contractor shall, at his expense, provide routine maintenance of permanent and temporary erosion control features until the project is completed and accepted. If such erosion control features must be reconstructed due to the Contractor's negligence or carelessness or, in the case of temporary erosion control features, failure by the Contractor to install permanent erosion control features as scheduled, such replacement shall be at the Contractor's expense. If reconstruction of permanent or temporary erosion control features is necessary due to factors

beyond the control of the Contractor, payment for replacement will be made under the appropriate contract pay item or items.

B. Mowing: The RE may direct mowing of areas of permanent or temporary grass constructed on the project. The Contractor shall mow these designated areas within seven days of receiving such order. Mowing of slopes which are steeper than four horizontal to one vertical will not be required.

3.9 PROTECTION DURING SUSPENSION OF CONTRACT TIME

A. In the event that it is necessary that the construction operations be suspended for any appreciable length of time, the Contractor shall shape the top of the earthwork in such a manner as to permit runoff of rainwater. The RE may direct the Contractor to perform, during such suspensions of time, any other erosion control work deemed necessary.

END OF SECTION 01 57 13

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 01 57 19 - TEMPORARY ENVIRONMENTAL CONTROLS

PART 1 - GENERAL

1.1 REFERENCES

A. The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only.

1. CODE OF FEDERAL REGULATIONS (CFR)

a.	29 CFR 1910	Occupational Safety and Health Standards
b.	40 CFR 122.26	EPA National Pollutant Discharge Elimination System Permit Regulations
c.	40 CFR 241	Guidelines for Disposal of Solid Waste
d.	40 CFR 243	Guidelines for the Storage and Collection of Residential, Commercial, and Institutional Solid Waste
e.	40 CFR 258	Subtitle D Landfill Requirements
f.	40 CFR 261	Identification and Listing of Hazardous Waste
g.	40 CFR 262	Generators of Hazardous Waste
h.	40 CFR 263	Transporters of Hazardous Waste
i.	40 CFR 264	Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities
j.	40 CFR 265	Interim Status Standard for Owners and Operators of Hazardous Waste Management Facilities
k.	40 CFR 266	Management of Specific Hazardous Waste and Specific Types of Hazardous Waste Management Facilities
l.	40 CFR 268	Land Disposal Restrictions
m.	40 CFR 279	Used Oil Regulations
n.	40 CFR 300	National Oil and Hazardous Substances Pollution Contingency Plan
o.	40 CFR 372 SUBPART D	EPA Toxic Chemical Release Reporting Regulations
p.	49 CFR 173	Shipments and Packaging's

2. ENVIRONMENTAL PROTECTION AGENCY (EPA)

a.	EPA 832-R-92-005	Storm Water Management for Construction Activities

1.2 DEFINITIONS

A. Sediment: Soil and other debris that has eroded and has been transported by runoff water or wind.

B. Solid Waste: Garbage, refuse, debris, sludge or other discharged material (except hazardous waste as defined in paragraph entitled "Hazardous Waste" or hazardous debris as defined in paragraph entitled "Hazardous Debris"), including solid, liquid, semisolid, or contained gaseous

materials resulting from domestic, industrial, commercial, mining, or agricultural operations. Material not regulated as solid waste are: nuclear source or byproduct materials regulated under the Federal Atomic Energy Act of 1954 as amended; suspended or dissolved materials in domestic sewage effluent or irrigation return flows, or other regulated point source discharges; regulated air emissions; and fluids or wastes associated with natural gas or crude oil exploration or production.

C. Green waste: The vegetative matter from landscaping, land clearing and grubbing, including, but not limited to, grass bushes, scrubs, small trees and saplings, tree stumps and plant roots. Marketable trees, grasses and plants that are indicated to remain, be re-located, or be re-used are not included.

D. Surplus soil: Existing soil that is in excess of what is required for this work, including aggregates intended, but not used, for on-site mixing of concrete, mortars and paving. Contaminated soil meeting the definition of hazardous material or hazardous waste is not included.

E. Inert construction and demolition debris: Broken or removed concrete, masonry, and rock asphalt paving; ceramics; roofing paper and shingles. All in accordance with state requirements.

F. Wood: Dimension and non-dimension lumber, plywood, chipboard, hardboard. Treated and/or painted wood that meets the definition of lead contaminated or lead based contaminated paint is not included.

G. Scrap metal: Scrap and excess ferrous and non-ferrous metals such as reinforcing steel, structural shapes, pipe and wire that are recovered or collected and disposed of as scrap. Scrap metal meeting the definition of hazardous material or hazardous waste is not included.

H. Paint cans: Metal cans that are empty of paints, solvents, thinners and adhesives. If permitted by the paint can label, a thin dry film may remain in the can.

I. Recyclables: Materials, equipment and assemblies such as doors, windows, door and window frames, plumbing fixtures, glazing and mirrors that are recovered and sold as recyclable. Metal meeting the definition of lead contaminated or lead based paint contaminated must be disposed in accordance with state requirements.

J. Debris: Non-hazardous solid material generated during the construction, demolition, or renovation of a structure which exceeds 2.5 inch particle size that is: a manufactured object; plant or animal matter; or natural geologic material (e.g., cobbles and boulders). A mixture of debris and other material such as soil or sludge is also subject to regulation as debris if the mixture is comprised primarily of debris by volume, based on visual inspection.

K. Hazardous Debris: As defined in paragraph entitled "Debris" of this section, debris that contains listed hazardous waste (either on the debris surface, or in its interstices, such as pore structure) per 40 CFR 261; or debris that exhibits a characteristic of hazardous waste per 40 CFR 261.

L. Chemical Wastes: This includes salts, acids, alkalies, herbicides, pesticides, and organic chemicals.

M. Garbage: Refuse and scraps resulting from preparation, cooking, dispensing, and consumption of food.

N. Hazardous Waste: Hazardous waste as defined in 40 CFR 261 or as defined by applicable state and local regulations.

O. Oily Waste: Petroleum products and bituminous materials.

P. Class I Ozone Depleting Substance (ODS)

1. Class I ODS is defined in Section 602(a) of The Clean Air Act and includes the following chemicals:

Chlorofluorocarbon-11 (CFC-11)	Chlorofluorocarbon-213 (CFC-213)
Chlorofluorocarbon-12 (CFC-12)	Chlorofluorocarbon-214 (CFC-214)
Chlorofluorocarbon-13 (CFC-13)	Chlorofluorocarbon-215 (CFC-215)
Chlorofluorocarbon-111 (CFC-111)	Chlorofluorocarbon-216 (CFC-216)
Chlorofluorocarbon-112 (CFC-112)	Chlorofluorocarbon-217 (CFC-217)
Chlorofluorocarbon-113 (CFC-113)	Halon-1211
Chlorofluorocarbon-114 (CFC-114)	Halon-1301
Chlorofluorocarbon-115 (CFC-115)	Halon=2402
Chlorofluorocarbon-211 (CFC-211)	Carbon tetrachloride
Chlorofluorocarbon-212 (CFC-212)	Methyl chloroform

1.3 SUBMITTALS

A. Statements

1. Environmental Protection Plan (see Section 1.6 for detailed requirements).
2. Dirt and Dust Control Plan
   a. Dirt and Dust Control Plan: Submit truck and material haul routes along with a plan for controlling dirt, debris, and dust on base roadways. As a minimum, identify in the plan the subcontractor and equipment for cleaning along the haul route and measures to reduce dirt, dust, and debris from roadways.

B. Field Test Reports

1. Laboratory Analysis

   a. Submit a copy of a laboratory analysis of solid waste and debris with the potential of becoming classified as a hazardous waste (i.e., abrasive/sand blasting debris, etc.). Waste stream determinations are required at the point of generation and must sufficiently document whether the waste will be a solid waste, hazardous waste, or Resource Conservation and Recovery Act (RCRA) exempt waste. Determinations must use EPA approved methods and provide written rational for whether the waste is classified as hazardous or non-hazardous. The Contractor shall bear the cost of the waste stream determinations, and the RE reserves the right to request waste stream determinations on questionable waste streams.

C. Records

1. Some of the records listed below are also required as part of other submittals. For the "Records" submittal, maintain on-site a separate three-ring Environmental Records binder and submit at the completion of the project. Make separate parts to the binder corresponding to each of the applicable sub items listed below.

    a. Preconstruction survey
    b. Solid waste disposal permit
    c. Waste determination documentation
    d. Disposal documentation for hazardous and regulated waste
    e. Regulatory notification
    f. Erosion and sediment control inspection reports
    g. Solid waste disposal report

2. Preconstruction Survey: Perform a preconstruction survey of the project site with the RE and take photographs showing existing environmental conditions in and adjacent to the site. Submit a report for the record.
3. Solid Waste Disposal Permit: Submit one copy of a permit or license showing such agency's approval of the disposal plan before transporting wastes off Government property.
4. Waste Determination Documentation: The Contractor shall complete a Waste Determination form (provided at the pre-construction conference) for all contractor derived wastes to be generated. The waste determination must be based upon either a constituent listing from the manufacturer used in conjunction with consideration of the process by which the waste was generated, EPA approved analytical data, or laboratory analysis (Material Safety Data Sheets (MSDS) by themselves are not adequate). All support documentation must be attached to the Waste Determination form. As a minimum, a Waste Determination form must be provided for the following wastes (this listing is not all inclusive): oil and latex based painting and caulking products, solvents, adhesives, aerosols, petroleum products, and all containers of the original materials.
5. Disposal Documentation for Hazardous and Regulated Waste: Submit a copy of the applicable EPA and state permit(s), manifest(s), or license(s) for transportation, treatment, storage, and disposal of hazardous and regulated waste by permitted facilities.
6. Regulatory Notification: The Contractor is responsible for all regulatory notification requirements in accordance with Federal, state and local regulations. The Contractor shall forward copies to the RE prior to commencement of work activities. Typically, regulatory notifications must be provided for the following (this listing is not all inclusive): demolition, renovation, NPDES defined site work, remediation of controlled substances (asbestos, hazardous waste, lead paint).
7. Solid Waste Disposal Report: Monthly the Contractor shall submit a solid waste disposal report to the RE. For each waste, the report shall state the classification (using the definitions provided in this section), amount, location, and name of the business receiving the solid waste. The Contractor shall include copies of the waste handling facilities' weight tickets, receipts, bills of sale, and other sales documentation. In lieu of sales documentation, the Contractor may submit a statement indicating the disposal location for the solid waste which is signed by an officer of the Contractor firm authorized to legally obligate or bind the firm. The sales documentation or Contractor certification shall

include the receiver's tax identification number and business, EPA or state registration number, along with the receiver's delivery and business address and telephone numbers. For each solid waste retained by the Contractor for his own use, the Contractor shall submit on the solid waste disposal report the information previously described. Prices paid or received shall not be reported to the RE unless required by other provisions or specifications of this Contract or public law.

1.4 CLASS I ODS PROHIBITION

A. Class I ODS as defined and identified herein shall not be used in the performance of this contract, nor be provided as part of the equipment. This prohibition shall be considered to prevail over any other provision, specification, drawing, or referenced documents.

1.5 ENVIRONMENTAL PROTECTION REQUIREMENTS

A. Provide and maintain, during the life of the contract, environmental protection as defined. Plan for and provide environmental protective measures to control pollution that develops during normal construction practice. Plan for and provide environmental protective measures required to correct conditions that develop during the construction of permanent or temporary environmental features associated with the project. Comply with Federal, state, and local regulations pertaining to the environment, including water, air, solid waste, hazardous waste and substances, oily substances, and noise pollution.

B. Licenses and Permits: Obtain licenses and permits pursuant to the "Permits and Responsibilities" FAR Clause.

C. Contractor Liabilities for Environmental Protection: The Contractor is advised that this project and the facility are subject to federal, state, and local regulatory agency inspections to review compliance with environmental laws and regulations. The Contractor shall fully cooperate with any representative from and federal, state and local regulatory agency who may visit the job site and shall provide immediate notification to the RE, who shall accompany them on any subsequent site inspections. The Contractor shall complete, maintain and make available to the RE, station, or regulatory agency personnel all documentation relating to environmental compliance under applicable federal, state and local laws and regulations. The Contractor shall immediately notify the RE if a Notice of Violation (NOV) is issued to the Contractor.

D. The Contractor shall be responsible for all damages to persons or property resulting form Contractor fault or negligence as well as for the payment of any civil fines or penalties which may be assessed by any federal, state or local regulatory agency as a result of the Contractor's or any subcontractor's violation of any applicable federal, state, or local environmental law or regulation. Should a Notice of Violation (NOV), Notice of Noncompliance (NON), Notice of Deficiency (NOD), or similar regulatory agency notice be issued to the FAA or FAA as facility owner/operator on account of the actions or inactions of the Contractor or one of its subcontractors in the performance of work under this contract, the Contractor shall fully cooperate with the FAA and/or FAA in defending against regulatory assessment of any civil fines or penalties arising out of such actions or inactions.

1.6 ENVIRONMENTAL PROTECTION PLAN

A. The Environmental Protection Plan shall be submitted in the following format and shall, at a minimum, address the following elements (also refer to paragraph entitled "Protection of Natural Resources" in this section):

1. Description of the Environmental Protection Plan

   a. General overview and purpose
   b. General site information

2. Protection of Natural Resources

   a. Land resources
   b. Tree protection
   c. Replacement of damaged landscape features
   d. Temporary construction
   e. Fish and wildlife resources
   f. Wetland areas

3. Storm Water Management and Control

   a. Ground cover
   b. Erodible soils
   c. Temporary measures

      1) Mechanical retardation and control of runoff
      2) Vegetation and mulch

B. Prevention of Releases to the Environment

1. Procedures to prevent releases to the environment
2. Notifications in the event of a release to the environment

C. Protection of the Environment from Waste (Hazardous Waste Management Section)

1. Control and disposal of solid and sanitary waste

2. Control and disposal of hazardous waste (Hazardous Waste Management Section) This item shall consist of the management procedures for all hazardous waste to be generated. As a minimum, include the following:

   a. Procedures to be employed to ensure a written waste determination is made for appropriate wastes which are to be generated;
   b. Sampling/analysis plan;
   c. Methods of hazardous waste accumulation/storage (i.e., in tanks and/or containers);
   d. Management procedures for storage, labeling, transportation, and disposal of waste

(treatment of waste is not allowed unless specifically noted);

e. Management procedures and regulatory documentation ensuring disposal of hazardous waste complies with Land Disposal Restrictions (40 CFR 268);
f. Management procedures for recyclable hazardous materials such as lead-acid batteries, used oil, and the like;
g. Used oil management procedures in accordance with 40 CFR 279;
h. Pollution prevention/hazardous waste minimization procedures;
i. Plans for the disposal of hazardous waste by permitted facilities;
j. Procedures to be employed to ensure all required employee training records are maintained.

D. Environmental Protection Plan Review: Fourteen days after the environmental protection meeting, submit the proposed Environmental Protection Plan for further discussion, review, and approval. Commencement of work shall not begin until the environmental protection plan has been approved.

1.7 UNFORESEEN HAZARDOUS OR REGULATED MATERIAL

A. If material that is not indicated in the contract documents is encountered that may be dangerous to human health upon disturbance during construction operations, stop that portion of work and notify the RE immediately. Intent is to identify materials such as PCB, lead paint, mercury, petroleum products, and friable and nonfriable asbestos. Within 14 calendar days the FAA will determine if the material is hazardous. If the material is not hazardous or poses no danger, the FAA will direct the Contractor to proceed without change. If the material is hazardous and handling of the material is necessary to accomplish the work, the FAA will issue a modification pursuant of "FAR 52.243-4, Changes" and "FAR 52.236-2, Differing Site Conditions".

PART 2 - PRODUCTS

NOT USED

PART 3 - EXECUTION

3.1 PROTECTION OF NATURAL RESOURCES

A. Preserve the natural resources within the project boundaries and outside the limits of permanent work. Restore to an equivalent or improved condition upon completion of work. Confine construction activities to within the limits of the work indicated or specified.

1. Land Resources: Except in areas to be cleared, do not remove, cut, deface, injure, or destroy trees or shrubs without the RE's permission. Do not fasten or attach ropes, cables, or guys to existing nearby trees for anchorages unless authorized by the RE. Where such use of attached ropes, cables, or guys is authorized, the Contractor shall be responsible for any resultant damage.

a. Protection of Trees: Protect existing trees which are to remain and which may be injured, bruised, defaced, or other wise damaged by construction operations. Remove displaced rocks from uncleared areas. By approved excavation, remove

trees with 30 percent or more of their root systems destroyed.

b. Replacement: Remove trees and other landscape features scarred or damaged by equipment operations, and replace with equivalent, undamaged trees and landscape features. Obtain RE's approval before replacement.

2. Water Resources

a. Oily and Hazardous Substances: Prevent oily or other hazardous substances from entering the ground, drainage areas, or local bodies of water. For oil, fuel oil, or other hazardous substance spills, verbally notify the RE immediately. Surround all temporary fuel oil or petroleum storage tanks with a temporary earth beam of sufficient size and strength to contain the contents of the tanks in the event of leakage or spillage.

3. Fish and Wildlife Resources: Do not disturb fish and wildlife. Do not alter water flows or otherwise significantly disturb the native habitat adjacent to the project and critical to the survival of fish and wildlife, except as indicated or specified.

3.2 HISTORICAL AND ARCHAEOLOGICAL RESOURCES

A. Carefully protect in-place and report immediately to the RE historical and archaeological items or human skeletal remains discovered in the course of work. Stop work in the immediate area of the discovery until directed by the RE to resume work. The FAA retains ownership and control over historical and archaeological resources.

3.3 EROSION AND SEDIMENT CONTROL MEASURES

A. Burnoff: Burnoff of the ground cover is not permitted.

B. Protection of Erodible Soils: Immediately finish the earthwork brought to a final grade, as indicated or specified. Immediately protect the side slopes and back slopes upon completion of rough grading. Plan and conduct earthwork to minimize the duration of exposure of unprotected soils.

C. Temporary Protection of Erodible Soils: Use the following methods to prevent erosion and control sedimentation:

1. Mechanical Retardation and Control of Runoff: Mechanically retard and control the rate of runoff from the construction site. This includes construction of diversion ditches, benches, berms, and use of silt fences and straw bales to retard and divert runoff to protected drainage courses.
2. Sediment Basins: Trap sediment in temporary sediment basins. Select a basin size to accommodate the runoff of a local 2-year storm. Pump dry and remove the accumulated sediment, after each storm. Use a paved weir or vertical overflow pipe for overflow. Remove collected sediment from the site. Institute effluent quality monitoring programs.
3. Vegetation and Mulch: Provide temporary protection on sides and back slopes as soon as rough grading is completed or sufficient soil is exposed to require erosion protection. Protect slopes by accelerated growth of permanent vegetation, temporary vegetation,

mulching, or netting. Stabilize slopes by hydroseeding, anchoring mulch in place, covering with anchored netting, sodding, or such combination of these and other methods necessary for effective erosion control.

3.4 CONTROL AND DISPOSAL OF SOLID WASTES

A. Pick up solid wastes, and place in covered containers which are regularly emptied. Do not prepare or cook food on the project site. Prevent contamination of the site or other areas when handling and disposing of wastes. At project completion, leave the areas clean. Recycling is encouraged and can be coordinated with the RE and the activity recycling coordinator. Remove all solid waste (including non-hazardous debris) from FAA property and dispose off-site at an approved landfill. Solid waste disposal off-site must comply with most stringent local state, and federal requirements including 40 CFR 241, 40 CFR 243, and 40 CFR 258.

B. Dumpsters: Equip dumpsters with a secure cover. Keep cover closed at all times, except when being loaded with trash and debris. Locate dumpsters behind the construction fence or out of the public view. Empty site dumpsters at least once a week or as needed to keep the site free of debris and trash. If necessary, provide 55 gallon trash containers to collect debris in the construction site area. Locate the trash containers behind the construction fence or out of the public view. Empty trash containers at least once a day. For large demolitions, large dumpsters without lids are acceptable but should not have debris higher than the sides before emptying.

3.5 CONTROL AND DISPOSAL OF HAZARDOUS WASTES

A. Hazardous Waste/Debris Management: The Contractor shall identify all construction activities that will generate hazardous waste/debris. The Contractor must provide a documented waste determination for all resultant waste streams. Hazardous waste/debris shall be identified, labeled, handled, stored, and disposed of in accordance with all Federal, State and local regulations including 40 CFR 261, 40 CFR 262, 40 CFR 263, 40 CFR 264, 40 CFR 265, 40 CFR 266, and 40 CFR 268. Hazardous waste shall also be managed in accordance with the approved Hazardous Waste Management Section of the Environmental Protection Plan. Store hazardous wastes in approved containers in accordance with 49 CFR 173. Hazardous waste generated within the confines of the facilities shall be identified as being generated by the Contractor. Prior to removal of any hazardous waste from FAA property, all hazardous waste manifests must be signed by the Contractor and a copy given to the RE. No hazardous waste shall be brought onto FAA's property. Provide to the RE a copy of waste determination documentation for any solid waste streams that have any potential to be hazardous waste or contain any chemical constituents listed in 40 CFR 372-SUBPART D. For hazardous wastes spills, verbally notify the RE immediately.

1. Regulated Waste Storage/Satellite Accumulation/90 Day Storage Areas: If the work requires the temporary storage/collection of regulated or hazardous wastes, the Contractor may request the establishment of a Regulated Waste Storage Area, a Satellite Accumulation Area, or a 90 Day Storage Area at the point of generation. The Contractor must submit a request in writing to the RE providing the following information:

Contract Number	_____	Contractor	_____
Haz/Waste or Regulated Waste POC	_____	Phone Number	_____
Type of Waste	_____	Source of Waste	_____
Emergency POC	_____	Phone Number	
Location of the Site (Attach Site Plan to the Request)	_____		

2. Attach a waste determination form. Allow ten working days for processing this request.

B. Pollution Prevention/Hazardous Waste Minimization: The Contractor shall actively pursue minimizing the use of hazardous materials and the generation of hazardous waste while on-base. The Hazardous Waste Management Section of the Environmental Protection Plan shall include the Contractor's procedures for pollution prevention/hazardous waste minimization. The Contractor shall describe the types of the hazardous materials expected to be used in the construction when requesting information.

C. Hazardous Material Control: The Contractor shall include hazardous material control procedures in the Safety Plan. The procedures shall address and ensure the proper handling of hazardous materials, including the appropriate transportation requirements. The Contractor shall submit a MSDS and estimated quantities to be used for each hazardous material to the RE prior to bringing the material on base. Typical materials requiring MSDS and quantity reporting include, but are not limited to, oil and latex based painting and caulking products, solvents, adhesives, aerosol, and petroleum products. At the end of the project, the Contractor shall provide the RE with the maximum quantity of each material that was present at the site at any one time, the dates the material was present, the amount of each material that was used during the project, and how the material was used. The Contractor shall also ensure that hazardous materials are utilized in a manner that will minimize the amount of hazardous waste that is generated. The Contractor shall ensure that all containers of hazardous materials have NFPA labels or their equivalent. Copies of the MSDS for hazardous materials shall be kept on site at all times and provided to the RE at the end of the project. The Contractor shall certify that all hazardous materials removed from the site are hazardous materials and do not meet the definition of hazardous waste per 40 CFR 261.

D. Petroleum Products: Conduct the fueling and lubricating of equipment and motor vehicles in a manner that protects against spills and evaporation. All used oil generated on the site shall be managed in accordance with 40 CFR 279. The Contractor shall determine if any used oil generated while on-site exhibits a characteristic of hazardous waste. In addition, used oil containing 1000 parts per million of solvents will be considered a hazardous waste and disposed of at Contractor's expense. Used oil mixed with a hazardous waste will also be considered a hazardous waste. All hazardous waste will be managed in accordance with the paragraph entitled Hazardous Waste/Debris Management of this section and shall be managed in accordance with the approved Environmental Protection Plan.

E. Spills of Oil and Hazardous Materials: Take precautions to prevent spills of oil and hazardous material. In the event of a spill, immediately notify the RE. Spill response shall be in

accordance with 40 CFR 300 and applicable State Regulations.

3.6 DUST CONTROL

A. Keep dust down at all times, including during nonworking periods. Sprinkle or treat, with dust suppressants, the soil at the site, haul roads, and other areas disturbed by operations. Dry power brooming will not be permitted. Instead, use vacuuming, wet mopping, wet sweeping, or wet power brooming. Air blowing will be permitted only for cleaning nonparticulate debris such as steel reinforcing bars. Only wet cutting will be permitted for cutting concrete blocks, concrete, and bituminous concrete. Do not unnecessarily shake bags of cement, concrete mortar, or plaster.

3.7 ABRASIVE BLASTING

A. Blasting Operations

1. The use of silica sand is prohibited in sandblasting.
2. Provide tarpaulin drop cloths and windscreens to enclose abrasive blasting operations to confine and collect dust, abrasive, agent, paint chips, and other debris.

B. Disposal Requirements: Submit analytical results of the debris generated from abrasive blasting operations per paragraph entitled Laboratory Analysis of this section. Hazardous waste generated from blasting operations shall be managed in accordance with paragraph entitled "Hazardous Waste\Debris Management" of this section and with the approved HWMP. Disposal of non-hazardous abrasive blasting debris shall be in accordance with paragraph entitled, "Control and Disposal of Solid Wastes".

END OF SECTION 07 57 19

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 01 57 23 - HANDLING OF INCIDENTAL FUEL SPILLAGE DURING CONSTRUCTION

PART 1 - GENERAL

1.1 SCOPE

A. This section consists of procedures to be followed in handling material contaminated with petroleum fuel products (hydrocarbons including petroleum, petroleum derivatives, hydraulics and like products) caused by incidental spillage (including leaks) from the Contractor's equipment.

1. Incidental spillage shall mean spillage of a quantity not greater than 25 gallons per incident, of vehicular or mechanical equipment fuel products, onto open ground and absorbed or not absorbed by the soils.
2. Spillage or leakage of petroleum fuel products in quantities in excess of 25 gallons or spillage that reaches surface water shall be immediately remediated by the Contractor using procedures as directed by the Airport Authority's Environmental Services Division. Whenever such spillage or leakage occurs, the Contractor shall immediately notify the RE and the Airport Authority's Environmental Services Division and shall employ the appropriate corrective actions as directed.

B. The provisions of this Section are limited to incidental petroleum fuel spillage on ground surfaces and it excludes fuel spillage onto surface waters.

C. Clean-ups are costly and delay progress. They can be avoided if leaks or spillages are eliminated and in case they occur, are managed efficiently and quickly.

PART 2 - PRODUCTS

2.1 ABSORBENT MATERIALS

A. Equip crews or machinery with the most efficient type of petroleum absorbent materials. These materials are available at petroleum equipment suppliers and must be readily accessible so that spillages can be contained and prevented from becoming greater incidents.

B. Fiber material, sand or cat litter may be used as an absorbent material. Sufficient quantity of absorbent material capable of absorbing up to 25 gallons of petroleum fuel products shall be stocked at the job site at all times.

PART 3 - EXECUTION

3.1 PROCEDURES

A. Personnel handling waste materials must have a minimum of 40 hours training as defined in 29

CFR 1910.120 and in accordance with certified OSHA course.

B. No payment will be made to the Contractor for the cost of handling and disposing of leaks, spillages and materials contaminated by such leaks or spillages.

C. The steps outlined below are minimum requirements and serve as a guide in preventing a minor incident from turning into a major event. They do not constitute a complete compliance procedure.

1. STEP 1

   a. If a fuel contamination to open ground has been discovered, check for the origin of that leak or spillage. Then stop the spillage or leak or positively contain it and then use absorbents to collect the discharged liquid.
   b. Immediately notify Airport Authority Environmental Services.

2. STEP 2

   a. Sand may be used to absorb ground surface spills while absorbent materials may be used to absorb ground spills as well as surface water spills.
   b. Once absorption of spilled fuels is complete, the impacted (contaminated) absorbent materials shall be stored in 55 gallon steel drums (100-150 lbs.).
   c. If leaked or spilled fuel has been absorbed into the soils, excavate and containerize the impacted (contaminated) soils. Soils may be stored in 55-gallon steel drums.

3. STEP 3

   a. The contaminated materials must be collected, containerized and otherwise properly stored and labeled prior to transport to a pre-approved storage, disposal or treatment facility.
   b. All drums used to store impacted (contaminated) absorbent material and/or contaminated soils shall be properly sealed and labeled with the following information:

      1. Name of company (Contractor):
      2. Contract or Project No.:
      3. Location of origin:
      4. Type of contents:
      5. Type of contaminant:
      6. Quantity: (eg 1 of 1)
      7. Date:
      8. Containerized by:

END OF SECTION 01 57 23

SECTION 01 58 00 - CONSTRUCTION IDENTIFICATION SIGNS

PART 1 - GENERAL

1.1 REQUIREMENT INCLUDED

A. Furnish, erect and remove a construction identification sign(s) in accordance with the contract drawings and as directed by the RE.

PART 2 - PRODUCTS

A. Sign Face: In accordance with the contract drawings. All edge sealed.

B. Supports: In accordance with the contract drawings.

C. Paint: Background and lettering - Exterior grade, latex, gloss paint. Colors as indicated on drawings.

PART 3 - EXECUTION

A. Install where shown; minimum post embedment in accordance with the contract drawings.

B. At final completion, remove sign and foundation. Restore site to original or proposed condition.

END OF SECTION 01 58 00

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 01 58 13 - POSTING OF NOTICES

PART 1 - GENERAL

1.1 SCHEDULE OF WAGE RATES AND BENEFITS

A. The Contractor, and each subcontractor under him, shall post in a conspicuous place on the site (1) the schedule of the specified overall hourly rate for each applicable classification; (2) the amount of liquidated damages for any failure to pay such rates; and (3) the name and address of the responsible official in County or the U.S. Department of Labor (whichever is applicable) to whom complaints should be given.

B. Copy of this Notice will be provided to the Contractor by the FAA.

1.2 NON-DISCRIMINATION CLAUSE

A. In accordance with AMS Clause No. 3.6.2-9 Equal Opportunity, the Contractor shall post the non-discrimination clause as required by Executive Order 11246.

B. The following is a statement of the required clause: Equal Employment Opportunity is the Law--Discrimination is Prohibited by the Civil Rights Act of 1964 and by Executive Order No. 11246. Title VII of the Civil Rights Act of 1964--Administered by: The Equal Employment Opportunity Commission. Prohibits discrimination because of Race, Color, Religion, Sex, or National Origin by Employers with 25 or more employees, by Labor Organizations with a hiring hall of 25 or more members, by Employment Agencies, and by Joint Labor-Management Committees for Apprenticeship or Training. Any person who believes he or she has been discriminated against should contact: The Equal Employment Opportunity Commission. 2401 E Street, NW, Washington, DC 20506.

C. EXECUTIVE ORDER NO. 11246--Administered by: The Office of Federal Contract Compliance Programs prohibits discrimination because of Race, Color, Religion, Sex, or National Origin, and requires affirmative action to ensure equality of opportunity in all aspects of employment by all Federal Government Contractors and Subcontractors, and by Contractors Performing Work Under a Federal Assisted Construction Contract, regardless of the number of employees in either case. Any person who believes he or she has been discriminated against should contact: The Office of Federal Contract Compliance Programs, U.S. Department of Labor, Washington, DC 20210.

PART 2 - PRODUCTS
NOT USED

PART 3 - EXECUTION
NOT USED

END OF SECTION 01 58 13

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 01 71 33 - PROTECTION OF WORK AND PROPERTY

PART 1 - GENERAL

1.1 REQUIREMENT INCLUDED

A. Protection of products after installation.

B. Protection of existing property and landscape.

C. Storm Protection Plan.

1.2 SUBMITTALS

A. Contractor shall submit a Storm Protection Plan to the RE for approval within 15 calendar days after notice to proceed.

B. Storm Protection Plan shall include, as a minimum, the following:

1. Storm Plan objectives.
2. Methods to attain protection objectives.
3. Responsibility of key personnel for the Contractor.
4. Time frame required to secure the site.
5. Time frame required to lower and/or secure crane(s).
6. Disaster and emergency programs.
7. Lists of key personnel to be contacted in time of emergency.

PART 2 - PRODUCT

NOT USED

PART 3 - EXECUTION

3.1 PROTECTION AFTER INSTALLATION

A. Protect installed products and control traffic in immediate area to prevent damage from subsequent operations.

B. Provide protective coverings at walls, projections, corners and jambs, sills and soffits of openings in and adjacent to traffic areas.

C. Protect finished floors and stairs from dirt, wear and damage:

1. Secure heavy sheet goods or similar protective materials in place, in areas subject to foot traffic.
2. Lay planking or similar rigid materials in place, in areas subject to movement of heavy

objects.

3. Lay planking or similar rigid materials in place, in areas where storage of products will occur.

D. Protect waterproofed and roofed surfaces:

1. Restrict use of surfaces from traffic of any kind and from storage of products.
2. When an activity is mandatory, obtain recommendations for protection of surfaces from manufacturer. Install protection and remove on completion of activity. Restrict use of adjacent unprotected areas.

E. Restrict traffic of any kind across planted lawn and landscape areas.

3.2 PROTECTION AND RESTORATION OF PROPERTY AND LANDSCAPE

A. The Contractor shall be responsible for the preservation of all public and private property, and shall protect carefully from disturbance or damage all land monuments and property markers until the RE has witnessed or otherwise referenced their location and shall not move them until directed.

B. The Contractor shall be responsible for all damage or injury to property of any character, during the prosecution of the work, resulting from any act, omission, neglect, or misconduct in its manner or method of executing the work, or at any time due to defective work or materials, and said responsibility will not be released until the work is completed and accepted.

C. When or where any direct or indirect damage or injury is done to public or private property by or on account of any act, omission, neglect, or misconduct in the execution of the work, or in consequence of the nonexecution thereof by the Contractor, the Contractor shall restore, at its own expense, such property to a condition similar or equal to that existing before such damage or injury was done, by repairing, or otherwise restoring as may be directed, or it shall make good such damage or injury in an acceptable manner, at no additional cost to the government.

3.3 STORM PROTECTION PLAN

A. The Contractor shall take all precautions as necessary to prevent damage to the facility and shall be responsible for damage to the facility resulting from any act, omission, neglect, or misconduct in the execution of the approved Storm Protection Plan.

B. In the event of a severe storm warning or as directed by the RE, the Contractor shall:

1. Secure outside equipment and materials and place materials subject to possible damage in protected locations.
2. Check surrounding area, including roof, for loose material, equipment, debris, and other objects that could be blown away or against existing facilities.
3. Secure crane(s).
4. Ensure that temporary erosion controls are adequate.
5. After the storm, the Contractor may be directed by the RE to assist in the restoration of the existing facility. Any restoration shall take precedence over the construction contract. Any additional costs will be claimed under the "changes" clause of the contract.

END OF SECTION 01 71 33

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 01 74 13 - CONSTRUCTION CLEANING

PART 1 - GENERAL

1.1 REQUIREMENT INCLUDED

A. Cleaning and disposal of waste materials, debris and rubbish during construction.

PART 2 - PRODUCTS

2.1 EQUIPMENT

A. Provide covered containers for deposit of waste materials, debris and rubbish.

PART 3 - EXECUTION

3.1 CLEANING

A. Maintain areas under Contractor's control free of waste materials, scraps, surplus material, debris and rubbish. Maintain site in a clean and orderly condition.

B. Remove debris and rubbish from pipe chases, plenums attics, crawl spaces and other closed or remote spaces, prior to closing the space.

C. Clean interior areas daily to provide suitable conditions for work and to prevent fire or accidents.

D. Use power brooms to clean paved areas as needed and immediately prior to opening any paved area to aircraft or vehicular traffic.

E. All combustible waste materials shall be removed from buildings at the end of each working day.

F. Broom clean interior areas prior to start of surface finishing and continue cleaning on a daily basis.

G. Control cleaning operations so that dust and other particulates will not adhere to wet or newly-coated surfaces.

H. Responsibility for construction cleaning shall not be delegated to subcontractors performing construction work under this Contract.

3.2 DISPOSAL

A. Remove waste materials, debris and rubbish from site bi-weekly and legally dispose of off-site in an authorized disposal area.

3.3 CONTRACTOR'S FAILURE TO CLEAN

A. If the Contractor fails to maintain levels of cleanliness in work areas, satisfactory to the RE, then the FAA shall have the right to cause such areas to be cleaned by others. The costs to the FAA for such cleaning, plus 25% for administration, shall be the obligation of the Contractor and shall be deducted from any money due the Contractor hereunder.

END OF SECTION 01 74 13

SECTION 01 74 23 - FINAL CLEANING

PART 1 - GENERAL

1.1 REQUIREMENT INCLUDED

A. Final cleaning of project.

1.2 SUMMARY

A. This section includes administrative and procedural requirements, protections of construction in progress, and for final cleaning at Substantial Completion.

B. Environmental Requirements: Conduct cleaning and waste-disposal operations in compliance with local laws and ordinances. Comply fully with federal and local environmental and antipollution regulations.

C. Do not dispose of volatile wastes, such as mineral spirits, oil, or paint thinner, in storm or sanitary drains.

D. Burning or burying of debris, rubbish, or other waste material on the premises is not permitted.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Cleaning Agents: Use cleaning materials and agents recommended by the manufacturer or fabricator of the material to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.

PART 3 - EXECUTION

3.1 FINAL CLEANING

A. General: Provide final-cleaning operations. Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit of work to the condition expected from a commercial building cleaning and maintenance program. Comply with manufacturer's instructions.

B. Cleaning Operations: Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for the entire Project or a portion of the Project.

1. Clean the Project Site, yard and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and foreign substances.

2. Sweep paved areas broom clean. Rake grounds that are neither planted nor paved to a smooth, even-textured surface.
3. Broom and mop clean concrete floors in unoccupied spaces.
4. Remove petrochemical spills, stains, and other foreign deposits.
5. Remove tools, construction equipment, machinery, and surplus material from the site.
6. Vacuum clean carpet and similar soft surfaces, removing debris and excess nap. Shampoo, if required.
7. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
8. Remove marks, stains, fingerprints, and other soils or other dirt from painted, decorated, and natural finished woodwork and other work.
9. Clean cabinet work removing stains, paint, dirt and dust.
10. Remove spots, plaster, soil and paint from ceramic tile, marble, and other finished materials, and wash or wipe clean.
11. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compounds and other substances that are noticeable vision-obscuring materials. Replace chipped or broken glass and other damaged transparent materials. Polish mirrors and glass, taking care not to scratch surfaces.
12. Clean, strip, buff, and wax flooring materials thoroughly; comply with materials manufacturer's instructions and recommendations.
13. Remove labels that are not permanent labels.
14. Touch up and otherwise repair and restore marred, exposed finishes and surfaces. Replace finishes and surfaces that cannot be satisfactorily repaired or restored or that already show evidence of repair or restoration.
15. Clean food-service equipment to a sanitary condition, ready and acceptable for its intended use.
16. Wipe surfaces of mechanical and electrical equipment, elevator equipment, and similar equipment. Remove excess lubrication, paint and mortar droppings, and other foreign substances.
17. Clean plumbing fixtures to a sanitary condition, free of stains, including stains resulting from water exposure.
18. Clean light fixtures, lamps, globes, and reflectors to function with full efficiency. Replace burned-out bulbs and defective and noisy starters in fluorescent and mercury vapor fixtures.
19. Replace disposable air filters and clean permanent air filters. Clean exposed surfaces of diffusers, registers, and grills.
20. Clean ductwork, blowers, and coils of units that were operated during construction.
21. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.
22. Leave the Project clean and ready for occupancy.

C. Pest Control: Engage an experienced, licensed exterminator to make a final inspection and rid the Project of rodents, insects and other pests. Comply with regulations of local authorities.

D. Removal of Protection: Remove temporary protection and facilities installed during construction to protect previously completed installations during the remainder of the construction period.

E. Compliances: Comply with governing regulations and safety standards for cleaning operations. Remove waste materials from the site and dispose of lawfully.

1. Where extra materials of value remain after completion of associated work, they become the FAA's property. Dispose of these materials as directed by the FAA.
2. The Contractor shall not dispose of debris or waste materials on the FAA's property without the prior written approval of the FAA.

END OF SECTION 01 74 23

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 01 77 00 - CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:

1. Compliance with Specification 01 74 23-Final Cleaning
2. Compliance with Specification 01 78 23-Operation and Maintenance Data
3. Compliance with Specification 01 78 36-Warranties and Guarantees
4. Compliance with Specification 01 78 39-Project Record Documents
5. Completion of Asbestos and Lead Free Certification
6. Completion of Lock Out/Tag Out (LOTO) Procedures
7. Final Punch List

1.2 SUBSTANTIAL COMPLETION

A. Preliminary Procedures: Before requesting inspection for determining date of Substantial Completion, complete the following. List items below that are incomplete in request.

1. Prepare a list of items to be completed and corrected (punch list), the value of items on the list, and reasons why the Work is not complete.
2. Advise FAA of pending insurance changeover requirements.
3. Obtain and submit releases permitting FAA unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
4. Prepare and submit Project Record Documents, operation and maintenance manuals, Final Completion construction photographs, damage or settlement surveys, property surveys, and similar final record information.
5. Deliver tools, spare parts, extra materials, and similar items to location designated by FAA. Label with manufacturer's name and model number where applicable.
6. Make final changeover of permanent locks and deliver keys to FAA. Advise FAA's personnel of changeover in security provisions.
7. Complete startup testing of systems.
8. Provide a final TAB report and preliminary commissioning report. The preliminary commissioning report shall include all documents required from the beginning of the contract through the verification of all control sequences and mechanical equipment operations. There shall be no items that are reported in less than complete working order per the contract documents.
9. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
10. Advise FAA of changeover in utilities.
11. Submit changeover information related to FAA's occupancy, use, operation, and maintenance.

12. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.

B. Inspection: Submit a written request for inspection for Substantial Completion, also referred to as the Contractor Acceptance Inspection (CAI). On receipt of request, COTR will either schedule the inspection within 14 days or notify Contractor of unfulfilled requirements. COTR will prepare the Certificate of Substantial Completion after the inspection or will notify Contractor of items, either on Contractor's list or additional items identified by COTR, that must be completed or corrected before certificate will be issued. COTR will also provide a punch list that will form the basis of requirements for the Final Completion.

1.3 FINAL COMPLETION

A. Preliminary Procedures: Contractor should request final inspection prior to contract completion date. Before requesting final inspection for determining date of Final Completion, complete the following:

1. Submit a Final Application for Payment.
2. Submit certified copy of COTR's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by COTR. The certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
3. Submit specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
4. Submit a letter from the airport certifying that work areas located on the airport were left in a satisfactory condition.
5. Perform a final cleaning in accordance with Section 01 74 23 "FINAL CLEANING".

B. Inspection: Submit a written request for final inspection for acceptance. On receipt of request, COTR will either proceed with inspection or notify Contractor of unfulfilled requirements. COTR will prepare a final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.

1.4 WARRANTIES

A. Submit warranties in accordance with Section 01 78 36 "WARRANTIES AND GUARANTEES". Warranty period shall begin on date of Substantial Completion as listed in Certificate of Substantial Completion.

B. Partial Occupancy: Submit properly executed warranties within fifteen (15) days of completion of designated portions of the Work that are completed and occupied or used by FAA during construction period by separate agreement with Contractor.

C. Provide additional copies of each warranty to include in operation and maintenance manuals.

PART 2 - PRODUCTS

NOT USED

PART 3 - EXECUTION

NOT USED

END OF SECTION 01 77 00

THIS PAGE INTENTIONALLY BLANK

SECTION 01 78 23 - OPERATION AND MAINTENANCE DATA

PART 1 - GENERAL

1.1 REQUIREMENTS INCLUDED

A. Preparation and submittal of operation and maintenance data.

1.2 REFERENCES

A. The current issues of the publication listed below forms a part of this specification to the extent referenced. The publication is referred to in the text by the basic designation only.

B. DEFENSE LOGISTICS AGENCY (DLA)

1. DLA H 4-1 — Federal Supply Code for Manufacturers (FSCM); United States and Canada - Name to Code, June 1982

1.3 SUBMISSION OF OPERATION AND MAINTENANCE DATA

A. Submit operation and maintenance (O&M) data which is specifically applicable to this contract and a complete and concise depiction of the provided equipment or product. Data containing extraneous information to be sorted through to find applicable instructions will not be accepted, i.e., data must be specific. Present information in sufficient detail to clearly explain user O&M requirements at the system, equipment, component, and subassembly level. Include an index preceding each submittal. Submit in accordance with Section 01 33 00, "SUBMITTAL PROCEDURES."

B. Quantity: Submit five copies of the manufacturers' information specified herein for the components, assemblies, subassemblies, attachments, and accessories. The items for which O&M data is required are listed in the technical sections which specify that particular item.

Provide Portable Document Format (PDF) file on 700+ MB compact disk or other approved portable electronic media for each manual. PDF file shall contain Table of Contents and Bookmarks to match manual. PDF shall also be uploaded to FAA's KSN website.

C. Package Content and Format: For each product, system, or piece of equipment requiring submission of O&M data, submit the package required in the individual technical section. Bind in commercial quality 8 ½" x 11" three-ring binder with hardback, cleanable, plastic cover. Labels shall be on paper in color(s) specified with black print, and shall clearly denote the following:

FEDERAL AVIATION ADMINISTRATION
FT LAUDERDALE INTERNATIONAL AIRPORT
ASR-9 FACILITY
(Manual Title)

(Date)

D. Package content shall be as required in the paragraph entitled "Schedule of Operations and Maintenance Data Packages," with the following general requirements:

1. First page shall be a Cover Page, identifying:

FEDERAL AVIATION ADMINISTRATION
FT LAUDERDALE INTERNATIONAL AIRPORT
ASR-9 FACILITY
(Manual Title)
(Date)

2. Second page shall be a Table of Contents indicating the contents of the binder(s).
3. The third page shall list the Names, Addresses, Contracts, and Phone Numbers for the following:

   a. FAA Project Engineer
   b. Designer(s)
   c. General Contractor
   d. Subcontractors
   e. Sub-subcontractors
   f. Suppliers

4. The remaining portions of the manual shall be separated by each major division of work as identified by the Contract Documents.

   a. PROJECT INFORMATION
   b. Within each major division of work, each section shall be individually identified by a typed index/tab. For each specification requirement, submit the following information in the order outlined below:

      1) Test Reports
      2) Operating and Maintenance Instructions, including but not limited to:

         a) Manufacturer's Recommended Care and Cleaning
         b) Installation Instructions
         c) Parts Lists
         d) Lubrication Checklists
         e) Equipment Supplier Lists
         f) Special Instructions
         g) Preventive Maintenance Instructions.

5. Service and Maintenance Contracts: Include Name, address and phone number and contact of Manufacturer's authorized Repair Company.

6. Completed FAA Turnover Forms:

a. See 3.1 for list of forms.

7. Copies of electrical panel schedules and directories.

E. Changes to Submittals: Manufacturer-originated changes or revisions to submitted data shall be furnished by the Contractor if a component of an item is so affected subsequent to acceptance of the O&M data. Changes, additions, or revisions required by the Contracting Officer for final acceptance of submitted data, shall be submitted by the Contractor within 30 calendar days of the notification of this change requirement.

1.4 TYPES OF INFORMATION REQUIRED IN O&M DATA PACKAGES

A. Operating Instructions: Include specific instructions, procedures, and illustrations for the following phases of operation:

1. Safety Precautions: List personnel hazards and equipment or product safety precautions for all operating conditions.
2. Operator Prestart: Include requirements to set up and prepare each system for use.
3. Startup, Shutdown, and Post shutdown Procedures: Include a control sequence for each of these operations.
4. Normal Operations: Include control diagrams with data to explain operation and control of systems and specific equipment.
5. Emergency Operations: Include emergency procedures for equipment malfunctions to permit a short period of continued operation or to shut down the equipment to prevent further damage to systems and equipment. Include emergency shutdown instructions for fire, explosion, spills, or other foreseeable contingencies. Provide guidance on emergency operations of all utility systems including valve locations and portions of systems controlled.
6. Operator Service Requirements: Include instructions for services to be performed by the operator such as lubrication, adjustments, and inspection.
7. Environmental Conditions: Include a list of environmental conditions (temperature, humidity, and other relevant data) which are best suited for each product or piece of equipment and describe conditions under which equipment should not be allowed to run.

B. Preventive Maintenance: Include the following information for preventive and scheduled maintenance to minimize corrective maintenance and repair.

1. Lubrication Data: Include lubrication data, other than instructions for lubrication in accordance with paragraph entitled "Operator Service Requirements":

a. A table showing recommended lubricants for specific temperature ranges and applications;
b. Charts with a schematic diagram of the equipment showing lubrication points, recommended types and grades of lubricants, and capacities; and
c. A lubrication schedule showing service interval frequency.

2. Preventive Maintenance Plan and Schedule: Include manufacturer's schedule for routine preventive maintenance, inspections, tests and adjustments required to ensure proper and

economical operation and to minimize corrective maintenance and repair. Provide manufacturer's projection of preventive maintenance man-hours on a daily, weekly, monthly, and annual basis including craft requirements by type of craft.

C. Corrective Maintenance: Include manufacturer's recommendations on procedures and instructions for correcting problems and making repairs.

1. Troubleshooting Guides and Diagnostic Techniques: Include step-by-step procedures to promptly isolate the cause of typical malfunctions. Describe clearly why the checkout is performed and what conditions are to be sought. Identify tests or inspections and test equipment required to determine whether parts and equipment may be reused or require replacement.
2. Wiring Diagrams and Control Diagrams: Wiring diagrams and control diagrams shall be point-to-point drawings of wiring and control circuits including factory-field interfaces. Provide a complete and accurate depiction of the actual job specific wiring and control work. On diagrams number electrical and electronic wiring and pneumatic control tubing and the terminals for each type, identically to actual installation numbering.
3. Maintenance and Repair Procedures: Include instructions and list tools required to restore product or equipment to proper condition or operating standards.
4. Removal and Replacement Instructions: Include step-by-step procedures and list required tools and supplies for removal, replacement, disassembly, and assembly of components, assemblies, subassemblies, accessories, and attachments. Provide tolerances, dimensions, settings and adjustments required. Instructions shall include a combination of text and illustrations.
5. Spare Parts and Supply Lists: Include lists of spare parts and supplies required for maintenance and repair to ensure continued service or operation without unreasonable delays. Special consideration is required for facilities at remote locations. List spare parts and supplies that have a long lead time to obtain.
6. Corrective Maintenance Man-Hours: Include manufacturer's projection of corrective maintenance man-hours including craft requirements by type of craft. Corrective maintenance that requires participation of the equipment manufacturer shall be identified and tabulated separately.

D. Appendices: Provide information required below and information not specified in the preceding paragraphs but pertinent to the maintenance or operation of the product or equipment. Include the following:

1. Parts Identification: Provide identification and coverage for all parts of each component, assembly, subassembly, and accessory of the end items subject to replacement. Include special hardware requirements, such as requirement to use high-strength bolts and nuts. Identify parts by make, model, serial number, and source of supply to allow reordering without further identification. Provide clear and legible illustrations, drawings, and exploded views to enable easy identification of the items. When illustrations omit the part numbers and description, both the illustrations and separate listing shall show the index, reference, or key number which will cross-reference the illustrated part to the listed part. Parts shown in the listings shall be grouped by components, assemblies, and subassemblies.

a. Manufacturer's standard commercial practice: The parts data may cover more than

one model or series of equipment, components, assemblies, subassemblies, attachments, or accessories, such as a master parts catalog, in accordance with the manufacturer's standard commercial practice.

b. Other than manufacturer's standard commercial practice: End item manufacturer may add a cross-reference to implement components' assemblies and parts requirements when implementation in manual form varies significantly from the style, format, and method of manufacturer's standard commercial practice. Use the format in the following example:

End Item Manufacturer's -Alphanumeric Sequence-	-	Actual Manufacturer's Name and FSCM-	-	Actual Manufacturer Part No.-
100001		John Doe & Co.		00000 2000002

c. List FSCM in accordance with DLA H 4-1.

2. Warranty Information: List and explain the various warranties and include the servicing and technical precautions prescribed by the manufacturers or contract documents to keep warranties in force.
3. Personnel Training Requirements: Provide information available from the manufacturers to use in training designated personnel to operate and maintain the equipment and systems properly.
4. Testing Equipment and Special Tool Information: Include information on test equipment required to perform specified tests and on special tools needed for the operation, maintenance, and repair of components.
5. Contractor Information: Provide a list that includes the name, address, and telephone number of the General Contractor and each subcontractor installing the product or equipment. Include local representatives and service organizations most convenient to the project site. Provide the name, address, and telephone number of the product or equipment manufacturers.

PART 2 - PRODUCTS

NOT USED

PART 3 - EXECUTION

3.1 ATTACHMENTS

A. The following forms have been included in this Section. See Division 26 for additional Electrical forms.

1. Exhibit A: Project Information
2. Exhibit B: Performance Verification and Demonstration to Owner
3. Exhibit C: Voltage and Amperage Readings
4. Exhibit D: Motor Test Information
5. Exhibit E: Check-Out Memo
6. Exhibit F: D-C High Voltage Cable Test Report
7. Exhibit G: Ground Test Information

8. Exhibit H: Spare Parts Certification Memo
9. Exhibit I: Conductor Insulation Resistance Test Memo
10. Example: Description Sheet – Cover
11. Example: Description Sheet – Spline

END OF SECTION 01 78 23

EXHIBIT A
PROJECT INFORMATION

Contractor shall fill in the blanks below and insert in the Operating and Maintenance Manuals. Submit one (1) sheet for each major division of Work.

Project Name: _____

Specification Division Number & Name: _____

Subcontractor: _____

Contact: _____ Phone: _____

Date Project Bid: _____

Project Start Date: _____

Days allowed for Construction: _____

Target Completion: _____

Substantial Completion Certification Date: _____

	Date Submitted	Date Provided
Close-out Documentation Manual:	_____	_____
Operating and Maintenance Manuals:	_____	_____
Owner Performance Verification and Demonstrations:	_____	_____
Manufacturer's Performance Verification Memos:	_____	_____
Manufacturer's Test Data:	_____	_____
Record Documents:	_____	_____

EXHIBIT B
PERFORMANCE VERIFICATION AND DEMONSTRATION TO OWNER

This form verifies that the FAA has been given a demonstration of the proper operation on the equipment or systems noted below.

Project Name:_____
Specification Division Number & Name:_____

Equipment/Systems Demonstrated: _____

Along with a complete demonstration of the equipment/system, these items have been reviewed at this demonstration and shall be included in the Operating and Maintenance Manuals, under the appropriate specification section:

1) Written operating instructions.
2) Test data and performance verification information as required by the installer and/or manufacturer.
3) Maintenance information published by manufacturer's representative.
4) Check-out Memo signed by manufacturer's representative.
5) Printed warranties by manufacturer of equipment.
6) Explanation of the warranty/guarantee on the system.
7) Prints showing actual "As-Built" conditions.

_____ _____
(Name of General Contractor) (Signature, Title, Date)

_____ _____
(Name of Subcontractor) (Signature, Title, Date)

A demonstration of the system/equipment in operation and of the maintenance procedures has been successfully completed.

FEDERAL AVIATION ADMINISTRATION

_____
(Signature, Date)

EXHIBIT C
VOLTAGE AND AMPERAGE READINGS

Project Name: _____

Switchgear/Panelboard: _____

_

Full Load Amperage Readings: Date: _____
Time: _____

Phase A: _____
Phase B: _____
Phase C: _____
Neutral: _____
Ground: _____

Full Load Voltage Readings: Date: _____ Time: _____

Phase:	A to N	A to B
	B to N	A to C
	C to N	B to C

Contractor's Representative: _____
_____ Date

Engineer's
Representative: _____
_____ Date

FAA's Authorized Representative: _____
_____ Date

EXHIBIT D
MOTOR TEST INFORMATION

Project Name:_____

Description of Motor: _____

Checked By:_____ Date Checked:_____

a) Name and Identifying Mark of Motor (Indicate at existing):_____

b) Manufacturer:_____

c) Model Number:_____

d) Serial Number:_____

e) RPM:_____

f) Frame Size:_____

g) Code Letter:_____

h) Horsepower:_____

i) Nameplate, Voltage and Phase:_____

j) Nameplate Amps:_____

k) Actual Voltage:_____

l) Actual Amps:_____

m) Starter Manufacturer:_____

n) Starter Size:_____

o) Heater Size, Catalog No. and Amp Rating:__

p) Manufacturer of Dual-Element Fuse:_____

q) Amp Rating of Fuse:_____

r) Power Factor:_____

Contractor's Representative:_____
Date

Signature of Checker:_____
Date

FAA's Authorized Representative:_____
Date

EXHIBIT E
CHECK-OUT MEMO

This form shall be completed and a copy provided to the FAA at the FAA's Performance Verification and Demonstration meeting. A copy shall also be included in the specification section of the Operating and Maintenance Manual for the equipment checked.

Project Name:_____
Type of Equipment Checked:
_____

Equipment Number: _____

Name of Equipment Manufacturer:
_____

Signature below by the Manufacturer's authorized representative signifies that the equipment has been satisfactorily tested and checked out on the job by the manufacturer.

1. The attached Test Data and Performance Verification information was used to evaluate the equipment installation and operation.

2. The equipment is properly installed, has been tested by the manufacturer's authorized representative, and is operating satisfactorily in accordance with all requirements, except for items noted below.*

3. Written operating and maintenance information has been presented to the Contractor, and gone over with him in detail.

4. Sufficient copies of all applicable operating and maintenance information, part lists, lubrication checklists, and warranties have been furnished to the contractor for insertion in the Operating and Maintenance Manuals.

Manufacturer's Representative:_____
(Print or Type Name and Title)

_____
(Print or Type Address and Phone Number)

Signature of Manufacturer's Representative: _____
Date Checked

Witnessed By:
_____
(Signature and Title of Contractor's Representative)

*Exceptions Noted at Time of Check-Out: (Use additional pages if necessary)

EXHIBIT F
D-C HIGH VOLTAGE CABLE TEST REPORT

Project Name: _____
Location: _____

Description: _____
Rated Voltage: _____

TEST DATA

Set Leakage at Test Voltage_____ma Variac_____

Pri. Voltage_____ Sphere
Gap_____Inches

Duct Temp._____ Ambient Temp._____Weather_____
Cable Status_____1 hour prior tests.

TEST RESULTS

Phase or conductor	A	B	C	Remarks
Starting Time				
0				
15 sec.				
30 sec.				
45 sec.				
1 min.				
2 min.				
3 min.				
4 min.				
5 min.				

Final Test voltage:_____ Time Finish: _____

KV DC After 1 Min.: Test Procedure_____ No. Terminals_____
Joints_____
Witnessed By: _____
Performed By: _____

EXHIBIT G
GROUND TEST INFORMATION

Project Name: _____

Ground Type: _____

Test By: _____

Date of Test: _____

Ground Location: _____

Ground Type (rod, water pipe, etc.) _____

Prior to Connection to System: Ground: _____ (OHMS)

After Connection to System: Ground: _____ (OHMS)

Weather conditions (Wet/Dry)_____ Soil conditions (Wet/Dry):_____

Contractor's Representative: _____

Date

Engineer's Representative: _____

Date

FAA's Representative: _____

Date

EXHIBIT H

SPARE PARTS CERTIFICATION MEMO

This form shall be completed and a copy provided to the Owner at the Owner's Performance Verification and Demonstration meeting. A copy shall also be included in the specifications section of each Operations and Maintenance Manual for the equipment checked.

Name of Project:_____

Type of Spare Parts:_____

Specification Reference:_____

Quantity of Spare Parts:_____

Signature below by the Contractor and subcontractor signifies that the spare parts required by the drawings and/or specifications have been turned over to the FAA. Signature by the FAA acknowledges receipt of the same spare parts.

Name of General Contractor:_____

Authorized Signature and Title:_____

Date:_____

Name of RE:_____

Authorized Signature and Title:_____

Date:_____

EXHIBIT I

CONDUCTOR INSULATION RESISTANCE TEST MEMO

NAME OF PROJECT:_____

Conductor Location From:_____ To:_____

Size of Conductor_____

Insulation Type_____ Insulation Voltage Rating___

Date of Test_____ Time of Test_____

Weather Conditions_____

Test Voltage (DC)_____ Range _____

Megger Instrument/Serial Number _____

Testing Methodology _____

INSULATION RESISTANCE MEASUREMENT

(Acceptable Measurement not to be less than one (1) Megohm)

Phase A to Ground_____

Phase B to Ground_____

Phase C to Ground_____

Neutral to Ground_____

Isolated Ground to Ground_____

Name of General Contractor:_____

Authorized Signature and Title:_____

Date

Name of Consulting Engineer:_____

Authorized Signature and Title:_____

Date

Name of RE:_____

Authorized Signature and Title:_____

Date

EXAMPLE – Cover Sheet

FEDERAL AVIATION ADMINISTRATION

AIRPORT DESCRIPTOR

ATCT FACILITY

OPERATION AND MAINTENANCE BROCHURES

EXAMPLE – Spline

FAA

AIRPORT DESCRIPTOR

ATCT FACILITY

E
L
E
C
T
R
I
C
A
L

OPERATING
AND
MAINTENANCE
MANUAL

FAA

AIRPORT DESCRIPTOR

ATCT FACILITY

S
Y
S
T
E
M
S

OPERATING
AND
MAINTENANCE
MANUAL

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 01 78 36 - WARRANTIES AND GUARANTEES

PART 1 - GENERAL

1.1 REQUIREMENTS INCLUDED

A. Preparation and submittal of warranties and guarantees.

1.2 FORM OF WARRANTY

A. Bind in commercial quality 8 ½ x 11 inch three-ring side binders, with hardback, cleanable, plastic covers.

B. Label cover of each binder with typed or printed title `WARRANTIES AND GUARANTEES', with Contract No. and Project Title; name, address and telephone number of Contractor.

C. Table of Contents: Neatly typed, in the sequence of the Table of Contents of the Project Manual, with each item identified with the number and title of the specification section in which specified and the name of the product or work item.

D. Separate each warranty or guaranty with index tab sheets keyed to the Table of Contents listing. Provide full information, using separate typed sheet as necessary. List subcontractor, supplier and manufacturer, with name, address and telephone number of responsible principal.

1.3 PREPARATION OF WARRANTY

A. Obtain warranties and guarantees, executed in duplicate by responsible subcontractors, suppliers and manufacturers, within ten (10) days after completion of the applicable item of work. Date of beginning of time of warranty will be the date of Substantial Completion.

B. Warranties and guarantees shall be made out in the name of, and accrue to the benefit of the Federal Aviation Administration.

1.4 TIME OF WARRANTY

A. Provide warranties prior to final acceptance.

B. For items of work when acceptance is delayed beyond date of Substantial Completion, submit within ten (10) days after acceptance, listing the date of acceptance as the beginning of the warranty or guaranty period.

1.5 EQUIPMENT WARRANTY TAGS AND GUARANTEE LOCAL REPRESENTATIVES

A. The Contractor shall furnish with each guarantee, the name address, and telephone number of the

guarantor, the name, address, and telephone number of the guarantor's representative nearest to the site, who, upon request of the FAA representative, will honor the guarantee during the guaranty period and will provide the service prescribed by the terms of the guarantee. At the time of installation, the Contractor shall tag each item of warranted equipment with a durable, oil and water resistant tag approved by the RE. Tag shall be attached with copper wire and sprayed with a clear silicone, waterproof coating. Leave the date of acceptance and inspectors signature blank until project is accepted for Substantial Completion. Tag shall show the following information:

B. Equipment warranty tags

1. Type of Equipment
2. Accepted Date
3. Warranted Until
4. Under Contract Number
5. Inspector's Signature

1.6 QUANTITY

A. Provide three (3) complete copies of warranties and guarantees.

PART 2 - PRODUCTS

NOT USED

PART 3 - EXECUTION

NOT USED

END OF SECTION 01 78 36